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Knowledge, Attitude, And Practices of Colleges and Universities Towards the Prevention of Emerging Infectious Diseases: Basis for Development of School Based Health and Welfare Manual

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Abstract: - The study was conducted on various Higher Education Institutions in the province of Nueva Ecija to determine their knowledge, attitude, and practices on emerging infectious diseases and this would be the basis for the development of school-based health and welfare manual. The profile and were said to be majority from 20-30 years old age group, the female was dominant based on the gender, the bachelor's degree was the highest educational attainment, three (3) years and below were highly experienced, both the public and private were consistently distributed and non-health related subjects were the main handled subjects by the respondents. The teachers' overall assessment based on their knowledge was that they are generally knowledgeable, they have a positive attitude, and they are practicing all the necessary infection prevention and control towards emerging infectious diseases. The age and number of years in teaching had a significant relationship based on knowledge and attitude since the computed p-value of 0.02 and 0.01, respectively ($p \leq 0.05$) is less than or equal to the critical value of 0.05 level of significance while the number of years in teaching had a significant relationship since the computed p-value of 0.01 ($p \leq 0.05$) is less than or equal to the critical value of 0.05 level of significance. It shows that an increase in knowledge about illness would lead to a positive attitude regarding emerging infectious diseases ($r = 0.798$, $p < .001$) and higher practices to combat and be free from sickness ($r = 0.758$, $p < .001$). Also, an increase in attitude about illness would lead to higher practices to eliminate emerging infectious diseases ($r = 0.755$, $p < .001$). The impact risk of the participants based on the findings of the study was said to be highly relevant and conclude that educators have the appropriate and sufficient knowledge, attitude, and practices on EID as a leading and key foundation to become more knowledgeable and precise when teaching EID among students and community. For further studies, Proper knowledge, right attitude, and good practices are vital in improving the achievement of better health care. So, having awareness and advocacy to the community through the effort of the teachers will surely empower everyone's mind on appropriate tools, information, and skills to make them high-quality, right informed decisions on the proper infection and prevention control, treatment, support, and care and finally, Educators should continue their legacy and contribution to strengthening disease surveillance so that soon, we can combat and protect ourselves from the health threat caused by emerging infectious diseases.

Keywords: Attitude, Practices, Prevention, and Emerging Infectious Diseases

I. INTRODUCTION

In the past, emerging, and re-emerging diseases impacted the country due to the outbreaks of contagious diseases. They continuously made the country susceptible to the threat of re-emerging diseases. The current situation emphasizes the risks and highlights that people should prepare not only locally but also internationally. These diseases may cause mortality and morbidity that impact the economy.

These infectious diseases threaten everyone's health because of interaction among humans, various animals that cause infection, and the environment. Human inhabitants are growing and drastically expanding into new geographical areas, so more people live in close contact with different wild and local animals. As a result, close contact can provide opportunities for diseases to transmit between animals and people.

The earth was experiencing many changes like climate change and land use, deforestation, and intensive farming systems. Likewise, international tourism, trade, and travel have increased, so the diseases multiply rapidly across the globe.

Health education effectively slows the spread of infectious diseases. Conducting a school health education program provides teachers, students, and other school personnel with proper knowledge of emerging infectious diseases and benefits the comprehensive development of schools. Therefore, health education must be

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strengthened to improve the health literacy of the school community so that proper channeling would be provided to people.

It is then imperative that people apply and continuously understand the current and existing knowledge, attitude, and practices on the proper prevention and treatment of contagious diseases. This will be the baseline for the development of the school-based health and welfare manual. This will, in turn, create a plan of action among the respondents to become more prepared in response to the assumption and consequences in the field of health. Moreover, this will harness information technology and social media to engage the respondents or readers on managing the risks of emergence at the animal level.

This will also serve as an influential global and local surveillance, forecasting and preparedness system because "one health" approaches are interconnected globally. The interconnectedness with the environment requires adjacent collaboration with joint actions between animal and human health. These two networks will systematically be linked and engaged for preparedness as well as response. Hence, this study was conducted to push through the development and evaluation of a unique manual that can create productive solutions to a certain gap and issues faced in response to emerging diseases. This manual can guide every school for an effective infection control program, proper communication program, and application of innovative and appropriate methods in monitoring, preventing, and controlling the spread of infections in the environment.

II. METHODS

This study used quantitative research design, specifically descriptive-correlational with developmental methods of research design.

The study was conducted in selected higher education institutions including private and public tertiary schools in Nueva Ecija, Philippines.

The respondents of this study were the faculty or the teaching staff of the colleges and universities in Nueva Ecija, Philippines. In choosing the participating schools, the researcher obtained the data of the highest number of cases on emerging infectious diseases in the province with the help of provincial health office data. The researcher considered COVID-19, HIV, Dengue Fever, and Tuberculosis. Respondents were chosen based on their technical knowledge, attitudes, and practices concerning the right and proper prevention of contagious diseases. These evaluations and assessment were used to develop a school-based welfare program and manual to educate and enhance how and what would be the best practices to eliminate, substitute, control, and prevent emerging communicable diseases.

The study developed a School-Based Health and Welfare Manual among the faculty of different colleges and universities in Nueva Ecija. In dealing with the sampling technique that was used in the study, purposive sampling was used due to some consequences brought about by the pandemic. A purposive sample was also referred to as a judgmental or expert sample. It was a type of nonprobability sample.

The instrument used in this study was a self-administered and a self-made questionnaire whose reliability was validated using the Cronbach's alpha and construct validity with the intention of assessing the knowledge, attitudes, and practices linking to the appropriate prevention and medication to various emerging infectious diseases.

The internal consistency method was also used to assess the instrument's reliability. Cronbach's Alpha was used to measure it. These result values of reliability indicate good internal consistency and instrument reliability.

The self-administered and self-made questionnaire consisted of 189 questions which were divided into five sections: the socio-demographic traits of the respondents; the knowledge; attitudes; practices; and perceived impact of emerging infectious diseases related to HIV, COVID-19, DHF, and PTB.

The questions were rated on a four (4) Likert Scale intended to be determined and assessed. The response choices for each item in the Likert scales of each section were one (1) Disagree, two (2) Slightly Agree, three (3) Agree, and four (4) Strongly Agree.

The questionnaire underwent a pilot testing to establish the content validity and reliability of various items based on the samples' knowledge, attitudes, and practices towards emerging infectious diseases.

The reliability coefficient was computed using Cronbach's Alpha. It was a measure of scale reliability. Cronbach's Alpha data reliability results were obtained to measure the respondents' internal consistency. The results from the reliability test were obtained for four emerging infectious diseases.

The researcher drafted a letter of permission addressed to the Presidents and Administrators of colleges and universities expressing gratitude and request that their faculty members were considered as the participants and respondents to the study. The instrument was done by the researcher and validated by the research expert validators.

This research was used to develop a school-based health and welfare manual. The purpose is a research approach that emphasizes, highlights, and focuses on the effort to produce a manual on proper prevention of emerging infectious diseases. Therefore, the researcher used the research and development approach by adapting the Borg and Gall Model in designing the model. Educational research and development (R & D) is used to develop and validate educational products.

Assessment

At this stage, the survey was distributed among the faculty members from the different colleges and universities in Nueva Ecija. This stage includes the assessment of their sociodemographic characteristics and their understanding, manners, and methods towards the prevention of evolving infectious diseases.

Planning of Context

In the planning area, the researcher needed a literature review of every disease included to define all the necessary terminologies required for this study and to start creating and formulating the main objectives of each emerging infectious disease. He started planning on the necessary information and identifying the sites included in the school-based manual.

Developing a Manual Based Materials

At this moment, the researcher started the preparation of instructional materials, a handbook, and a manual on the prevention of emerging infectious diseases. This stage also included the implementation and the main design and context of the manual. The manual did not use a specific format. The developed manual is most likely a module composed of a title, learning outcomes, introductory part, and the definition of the communicable disease. It also contains epidemiology, the mode of transmission on how a person may acquire the disease, prevention, diagnosis, signs and symptoms, and proper treatment. The end of those parts will be a take-home or a carry-home message and simple words of wisdom to ponder.

Validation

At this point, the researcher also tested the material, or the manual based on validators' expertise. These validators were health professionals from various areas. In the validation process, the experts reviewed and gave their suggestions and comments in the manual that the researcher developed.

The panel of validators was composed of seven (7) experts. The first one is a Medical Technologist who is a Licensed HIV Proficient. He performs counseling and testing for those who are suspected of having and have acquired HIV disease. Another is a Medical Technologist who is trained as a biosafety officer. He/she supports companies concerning genetically modified and pathogenic organisms and exerts efforts to organize biological safety, among others. Another validator is a Pathologist who is a highly specialized Medical Doctor or physician. He is an expert in the study of body tissues and other body fluids. He is also responsible for overseeing the management of the hospital and clinical laboratories, examining, and interpreting laboratory tests results, and performing autopsies to identify and confirm the disease and determine the cause, manner, and mechanism of death. To complete the panel of experts, there were additional three (3) Medical Doctors who specialize in Infectious Diseases (Adult and Pediatrics), Pulmonologist, and Internal Medicine. These medical doctors helped

the researcher to be more accurate and precise on the proper words and phrases used in the development of manual for appropriate information on the diagnosis, treatment, prevention, and control of each communicable disease with their expertise in their field of specialization.

Distribution of Manual

After the validation of experts and revision of the researcher on the manual-based material, it was printed and disseminated to the different schools for appropriate use for and references.

Inferential statistics were also used in this study. The statistical treatments used to infer were spearman-rank to test the significant relationship of the respondents and their KAP.

III. RESULTS AND DISCUSSIONS

Demographic Characteristics of the Respondents

Age

the summary and graph percentage of the respondents based on their age where 20-30 years old (46%) were the main respondents of the study followed by 31-40 years old (31%), 41-50 years old (15%), 51-60 years old (6%), and the least age bracket who responded the survey was 61 years old and above (2%). There was a remarkable high percentage of respondents aging 20-30 years old who are expected to pass the licensure examinations and penetrate and become established in the workforce. This dominating age bracket is also respondents were 20-30 years old bracket because they under the so-called millennials. They grew up with the speedy transformation and revolution due to technological advancement and innovation during the 21st century. The modernization brought about their curiosity, and most of all, they were financially cognizant and constant (Maimaiti R. et al.,2010 as cited by Neha & Xiao, 2017). The youthful, particularly 20-30 years old were vulnerable to infection and credited with their risky engagement on practices owing to their inadequate information (Dzah, Tarkang & Lutala, 2019). This age bracket also tended to HIV/AIDS-related lectures and training (Neha & Xiao, 2017). It means that the individuals under this age bracket are willing to undergo various trainings, seminars, and are eager to lay their theoretical knowledge into practice. This age bracket is highly motivated, educated, multidisciplinary, career and goal-oriented, socially driven, ethically diverse, tech-driven, and curious individuals.

Table 1. Summary Based on the Age of the Respondents

	Frequency	Percent
20 - 30 years old	46	46
31 - 40 years old	31	31
41 - 50 years old	15	15
51 - 60 years old	6	6
61 years old and above	2	2
Total	100	100

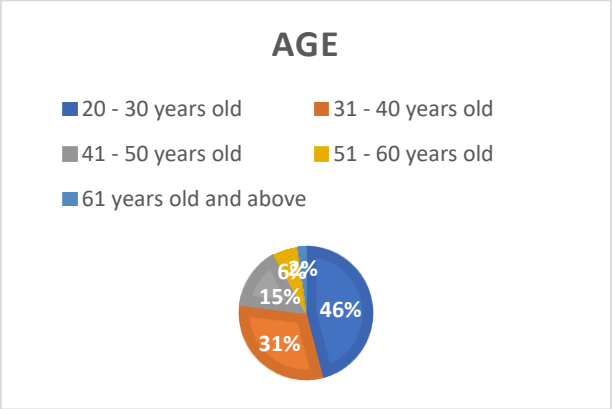

Figure 1. Graph showing the percentage based on Age of the respondents

Gender

the summary and percentage of gender of the respondents where 30% are male while 70% are female. There were more female respondents because more females had attained a higher level of education than males. According to the Philippine Statistics Authority, in 2010, more females had achieved higher levels of education than males. Females had more academic degree held with post-baccalaureate courses. Gender profile as a variable has a robust effect on the sensitivity in various studies with women showing more sensitivity than men. A similar and associated pattern is shown from the perceived vulnerability to disease questionnaire (PVDQ) with somewhat higher and greater scores produced by women than men. The explanation and reason for these gender differences were related to men's fitness and higher risk behavior subsequent apathy for signifying disease cues that explained the lower sensitivity in males. Second, women would be more ready and prepared for the appropriate prevention of diseases causing threats than men because of the greater and improved investment of strength and vitality in raising children. This would lead women to take off the role of transmissible illness protectors for themselves and their offspring (Diaz, Beleña & Zueco, 2020). It means that the exposure to infectious diseases is related to gender which somehow dictates people's daily activities. In addition, teaching profession is a profession and occupation commonly pursued by females.

Table 2. Summary based on the Gender of the Respondents

	Frequency	Percent
Male	30	30
Female	70	70
Total	100	100

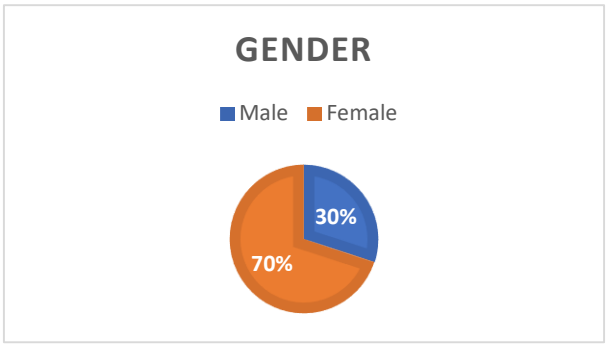

Figure 2. Graph showing the percentage based on the gender of the respondents

Educational Attainment

the graphical representation and percentage summary of the respondents' educational attainment. From the highest level of education, 7% of the respondents were doctoral degree holders, 44% were master's degree holders, and 49% were bachelor's degree holders. Under the Commission on Higher Education, each program has its memorandum order, stating its policies, standards, and guidelines on each area. Most of the baccalaureate program will be four (4) years, combining the minimum required general education subjects, core subjects, professional subjects, or major subjects, including electives. It denotes that this will serve as the entry-level of teaching on all the Higher Education Institutions. Therefore, graduates will need to take up higher level of education by pursuing their graduate studies for their continuous professional growth and development.

Table 3. Summary of the Educational Attainment of the Respondents

	Frequency	Percent
Bachelor's Degree	49	49

Master's Degree	44	44
Doctorate Degree	7	7
Total	100	100

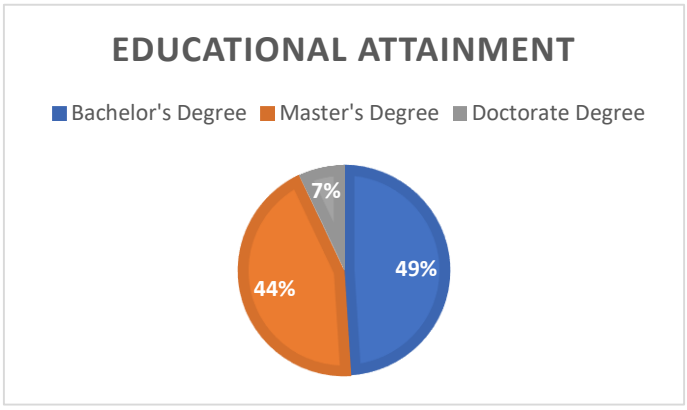

Figure 3. Graph showing the percentage based on the Educational Attainment of the Respondents

Number of Years in Teaching

The highest percentage of the respondents as to their number of years in the teaching profession was three years and below, followed by 4-6 years, above ten years, and 7-10 years. During their three years and below in the teaching profession, the respondents apply subject specific theoretical knowledge to a real-life scenario. This duration also develops their chosen career and see how different aspects, methods and handle the actual working environment. Thus, help them also to develop personally and have a great chance of increasing teamwork, interpersonal skills, boost self-confidence, problem solving and decision-making, communication skills and their time management. It implies that experience really matters. The highest percentage of respondents in the teaching profession is three years and below and this duration provides various perspectives for a new faculty teacher and the opportunity to put the theory into practice.

Table 4. Summary Based on the Number of Years in Teaching of the Respondents

	Frequency	Percent
3 years and below	39	39
4-6 years	36	36
7 - 10 years	7	7
10 years and above	18	18
Total	100	100

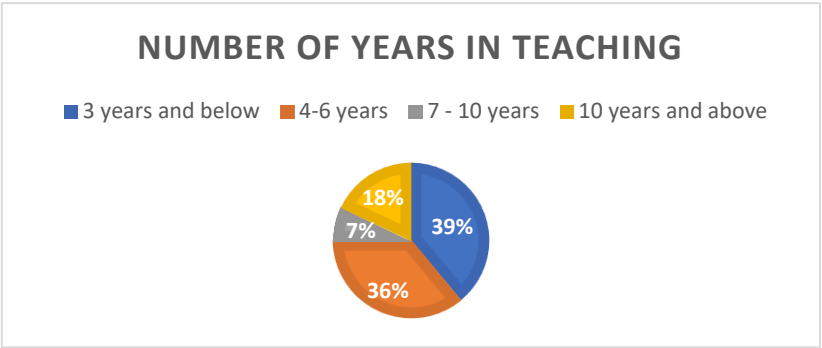

Figure 4. *Graph showing the percentage based on the number of years in the teaching of the respondents*

Type of Higher Education Institution Affiliation

There was an equal percentage distribution of respondents as to affiliation whether from private or public sectors. Table 8 and Figure 8 summarize the percentage of the respondents' affiliation from public and private higher education institutions. Respondents were doubling up their time doing their modules and lot of workloads that were task by the faculty for their students and having a stiff setup during this time of pandemics. In terms of HEIs, both public and private education sectors conduct training, seminars, and studies about infectious diseases. The participants are more enthusiast to learn information and facts about the diseases. HEIs are more eager to gain knowledge about the study on multidisciplinary aspect.

Table 5. Summary based on the type of Higher Education Institution Affiliation

	Frequency	Percent
Private	50	50
Public	50	50
Total	100	100

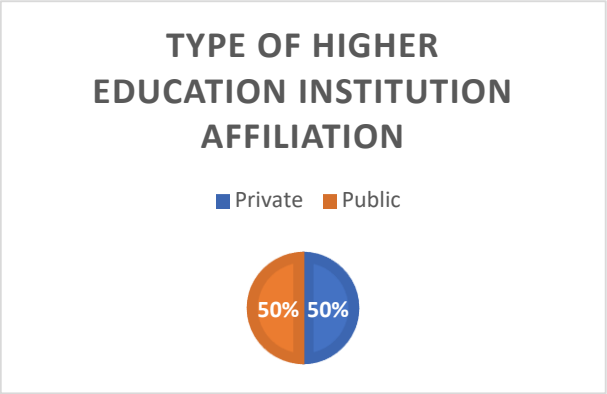

Figure 5. Graph showing the percentage based on the type of higher education institution affiliation

Subject Handled

The summary and percentage of health-related and non-health-related subjects handled by the participants are shown in Table 9 and Figure 9. Respondents who handled non-health-related subjects predominated more than those who handled health-related subjects with 55% and 45% respectively. The primary reason why most of the participants are handling non-health-related subjects is that colleges and universities are not offering related health programs. Only two (2) higher education institutions offer health-related programs like Bachelor of Science in Nursing, Medical Technology, and Pharmacy. Most schools in the province of Nueva Ecija are offering educational programs.

Table 6. Summary of the respondents based on the subject handled

	Frequency	Percent
Health-related subject	45	45
Non-health-related subject	55	55
Total	100	100

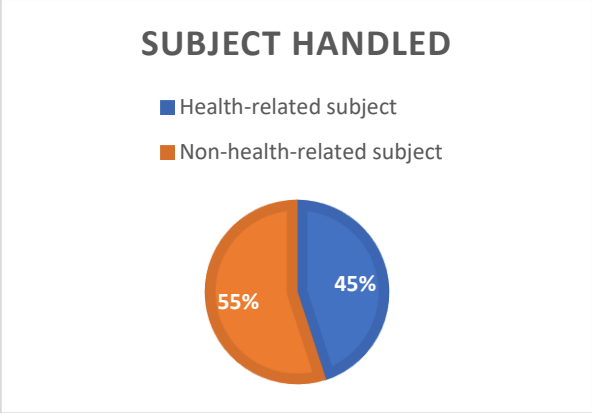

Figure 6. Summary based on the subject handled of the respondents.

Number of Respondents Based on School Affiliation

Table 10 and Figure 10 show the summary and percentage of the selected colleges and

universities in the province of Nueva Ecija. The schools were represented from the southern, central, eastern, and northern parts of the province. The respondents were from the South, School D (9.00%); from the central part of the province, Schools A (25.00%) and C (20.00%); from the northern part, Schools B (7.00%) and F (10.00%); and lastly, from the eastern part, Schools E (4.00%) and G (25.00%). Those schools were represented by private and public higher education institutions.

Table 7. Summary of School Affiliation of the Respondents

School Affiliation	Frequency	Percent
School A	25	25
School B	7	7
School C	20	20
School D	9	9
School E	4	4
School F	10	10
School G	25	25
Total	100	100

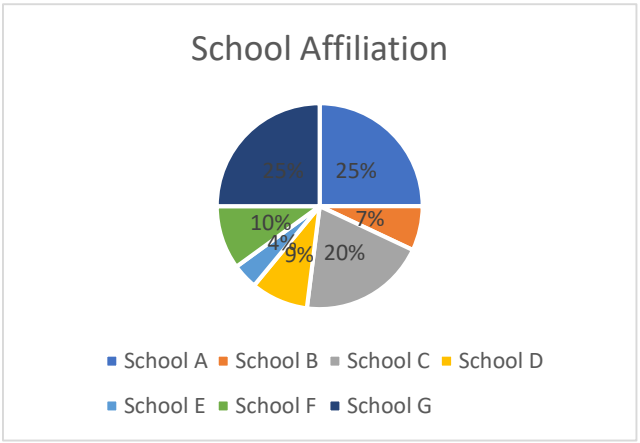

Figure 7. Graph showing the percentage of the school affiliation of the respondents

Assessment of knowledge, attitudes, and practices of the respondents based on:

Knowledge towards HIV

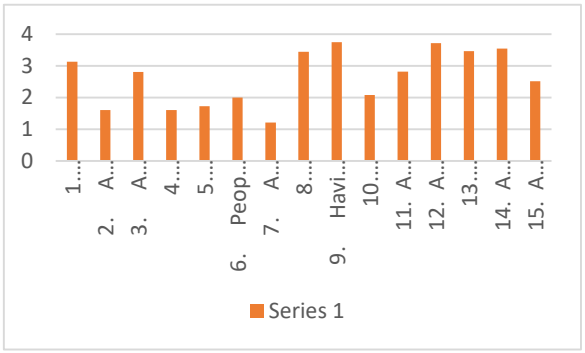

Figure 8. Mean of the Respondents on their knowledge towards HIV

the summaries of the general weighted mean and verbal description on knowledge towards HIV. The respondents were said to be highly knowledgeable on the method of transmission, prevention, and control (Thanavanh B et al.,2013). Respondents' knowledge of having a bigger chance of acquiring the infection with multiple partners is at 3.74 and acquiring the disease from sharing sharps or needles at 3.71. The respondents know that a person with a sexually transmitted disease (STD) had a higher chance of obtaining the virus in the future with a mean score of 3.54.

To further support the findings of the study, according to the study of Bimbola & Florence (2008); Lawrence, et al. (1997); Rikka and Osmo (1999), the A (Abstain from sex), that B (Be faithful), C (Consistently use of condoms), D (Do not share used needles), E (Educate yourself) of prevention and control should be kept in mind as cited by Petros (2014). The study was similar to the findings that majority of their participants reported that unprotected penetrative sexual intercourse, sharing of contaminated needles and sharps, and having contact with various partners and through contaminated and unscreened blood were found to be the major causes of HIV transmission (Nubed & Akoachere, 2016). The table further shows that male-to-male sexual interaction was a high risk of developing and obtaining the infection (3.46). Surprisingly, the respondents of the study reveal a high knowledge (3.44) on one of the prevention controls and measures to counteract the infection through the proper use of condom whenever having intercourse (Calderon, Urizar, Blazquez, Ferreras, Rubio, Montrull, Rivera & Valero, 2015).

In justification of the findings of the study, the table shows general knowledge towards HIV/AIDS. Sneezing and coughing do not spread the virus causing infection (3.13), the chance of transmitting through oral sexual contact (2.82), having intercourse with a man and woman (2.81), linked between HIV and TB (2.51) they only signify that they have proper knowledge when it comes to transmission of the disease. Successful transmission of the virus will be through unprotected penetrative sexual intercourse (UPSI), receiving contaminated blood /blood products (RCBB), infected mother-to-child transmission (IMTCT), and sharing of contaminated needles (SCN). The respondents were slightly knowledgeable on the aspect that deep kissing will transmit the virus (2.00) and taking the test a week after the last intercourse will tell if a person has HIV (2.08).

As opposed to the result, the respondents believe that a vaccine stops humans from acquiring HIV (1.73). A significant amount of literature could tell that HIV has no cure, but according to Alcora (2020) in the AIDS map, HIV can now be cured with a bone marrow transplant by replacing all the immune system cells. During this time of the pandemic, according to Dr. Mark D. Feinberg of the International AIDS Vaccine Initiative (IAVI), Moderna, the biotech company that developed one of the first COVID-19 vaccines last year, is hoping to break new ground in fighting another pandemic, the HIV/AIDS. So, the company will soon begin human trials for their mRNA-based vaccine. Reality could tell everyone that a person will not be infected with HIV by sharing a glass of water with someone known to have the disease. A person may not show serious signs and symptoms of being infected because people living with HIV (PLHIV) can also live a healthy life like someone without HIV. A woman cannot get HIV if she has sexual intercourse during her menstruations (1.21); again, always consider the transmission of the infective agent.

When the teacher's overall knowledge was assessed using the mean value score (2.68), they were generally seemed to be knowledgeable about HIV/AIDS. Admassu, Tesfaye, and Dadi's study (2019) emphasized the implication of abstinence from sex, consistently and correctly using condoms, being faithful to one partner, not sharing contaminated needles, and education will aid in the prevention of infection. Participants from the survey knew that condoms as a protective tool for safeguarding them from HIV were about 90%. They also knew that needle sharing is one of the successful entries of the virus from an uninfected person. Completely, they knew the probability of HIV transmission through unprotected penetrative sexual intercourse (Amini, Doosti-Irani, Sedaghat, Fahimfar & Mostafavi, 2017). Increasing the knowledge could be a powerful and influential means of fostering positive attitudes and developing safe practices among the overall population (Thanavanh B et al., 2013).

As support to the study made by the researcher, as cited by Petros (2014) with regard to their knowledge, attitudes, and behaviors pertaining to the disease, many studies in Africa and Asia (Rikka & Osmo, 1999; Bimbola & Florence, 2008; Xiaoming, et al., 2004) reported that they have increased knowledge and positive attitude change towards the disease, the national findings showed overall awareness (comprehensive knowledge), attitude and perception on self-risk and caring for HIV infected community was found towards causative factors and prevention on methods of HIV (UNAIDS, 2010; FHAPCO-MOH, 2007 & FHAPCO, 2010; DHS, 2006 & EDHS, 2011). Adequate knowledge on HIV/AIDS was a significant and powerful means of promoting and enhancing positive attitudes and engaging in better and safer practices (Dzah, Tarkang & Lutala, 2019). A satisfactorily high level of knowledge was reported by students when they were asked questions pertaining to HIV (Thanavanh et al.,2013). A study also reported significant positive intervention in HIV-related KAP among Chinese and significantly improved their treatment and control (Neha & Xiao, 2017). Regarding the knowledge on the prevention of HIV/AIDS, most of the teachers responded correctly to various questions on preventive measures on the disease (Goyal B. et al., 2015). It implies that respondents are aware on the ABCDE's of HIV prevention and control that refrain from unprotected sex, know that it should have a mutually monogamous relationship, aware on consistently and correct use of condoms every time they have sexual intercourse, refrain from using drugs and always educate and aware on the mode of transmission and mitigation of HIV.

Attitude towards HIV

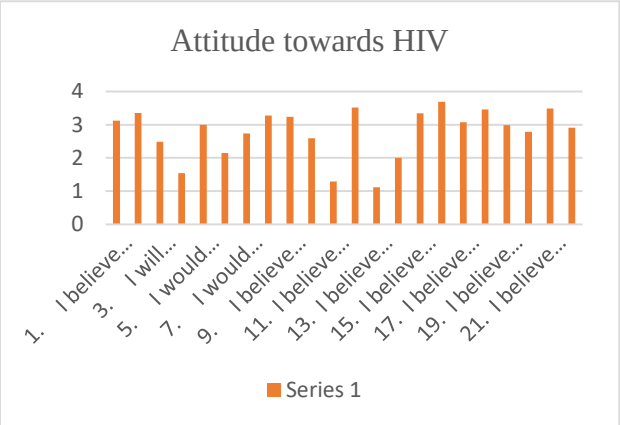

Figure 9. Weighted mean of the respondents on their attitude towards HIV

The findings of the study show that respondents have a mannered attitude towards HIV with a total weighted mean of 2.78. Most of them agreed to support HIV/AIDS education in the school curriculum with the highest mean of 3.69. Teachers should be receptive to knowledge on HIV infection. Therefore, they should not be embarrassed by answering students' queries regarding this topic which shows 3.49 of the mean. A Global Campaign for Education report (2004) states that young people are less likely to understand HIV/AIDS education and less confidence in accessing services and openly discussing the HIV epidemic.

Also, they believe that discrimination against HIV-infected individuals should not be tolerated. Respondents believe that no refusal of HIV positive among the hospitals with 3.52 of the mean data. Furthermore, understanding these ideas can reduce the HIV stigma which is considered as the greatest challenge in providing treatment and prevention.

The study shows that every person infected with HIV should receive appropriate medical care and treatment regardless of cause of acquiring the infection. Furthermore, the data revealed that respondents agreed to seek medical advice and treatment if they have a problem on their genital or private part with means of 1.12, 1.29, and 1.54, respectively. This attitude towards HIV will help raising awareness and helping to promote the counseling and testing for HIV which is an effective strategy in HIV prevention and control measures.

In this study, 83.4% of the subjects agreed or strongly agreed to include HIV/AIDS education in the school curriculum. Dawson et al. (2001) as cited by Goyal B. et al. (2015) found that all the respondents said in their study that they favored including HIV/AIDS education in the curriculum in school. The 68.1% of the respondents also agreed that there should be separate teaching hours for HIV/AIDS education. Contrary to the present finding, a study in Zambia in 2015 showed that 91.5% of teachers agreed on the same statement. In their study, 55.1% of teachers should not be humiliated by answering students' questions about the disease (Goyal B. et al., 2015). Respondents also had a desirable attitude towards the diseases (Admassu et al., 2019). In another study that the researcher from Cameroon conducted, two hundred and forty-four (52.6 %) respondents revealed a motivation to take good care of a PLHIV relative or maintain a friendship with someone known to have an HIV-positive friend. In comparison, only 56.9 % could buy food and other goods from a positive person. Most of the respondents acknowledged that a positive student should be authorized to continue her/his studies (71.6 %). HIV-positive teachers should continue and permit their legacy in the teaching profession (75 %). Only 52.5 % of students had positive attitudes towards PLHIV (Nubed and Akoarchere, 2016). Most of the respondents were willing to care for HIV-positive relatives and befriended those with HIV individuals (Dzah, Tarkang & Lutala, 2019). Attitude toward safe and unsafe sex should be reiterated and emphasized (Calderon, Urizar, Blazquez, Ferreras, Rubio, Montrull, Rivera & Valero, 2015). According to the Philippine HIV and AIDS Policy Act Article II, there shall be an HIV and AIDS prevention program to educate the community on the disease and other STIs. The main objective and aim should be reducing risky performance and behavior, sinking the vulnerabilities, and promoting human rights among PLHIV (RA 11166, 2018).

It suggests that there shall develop an HIV and AIDS prevention program to educate the public on HIV and AIDS and other STIs with the goal of reducing risky behavior, lowering vulnerabilities, and promoting the human rights of PLHIV and eliminating stigma and discrimination with the partner agencies like Department of Education (DepEd), Commission on Higher Education (CHED) and Technical Education and Skills Development Authority (TESDA).

Practices towards HIV

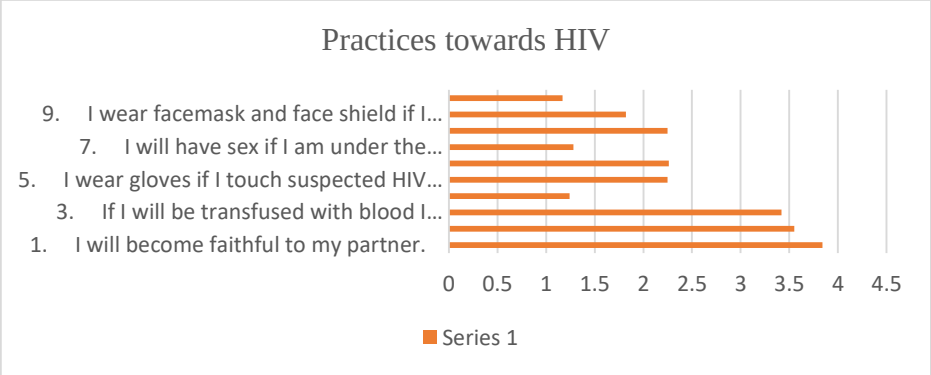

Figure 10. Weighted mean of the respondents on their practices towards HIV

the practices of the respondents towards HIV and generally found that they have slightly practiced the precautionary measure of HIV as indicated by the total mean of 2.31. The data indicate that becoming a faithful partner has the highest mean of 3.84, indicating the respondents' high practice. The proper and consistent use of condoms and asking if the blood to be transfused was tested with HIV have a mean of 3.55 and 3.42 respectively. As strong evidence, two of them were the ABCDEs of proper prevention, control, and measures to avert the cause of the disease, the mode of transmission of receiving contaminated blood and blood products. Research Institute for Tropical Medicine (RITM) proposes strategies to guarantee that blood supply would be safe and free from

transmissible diseases. In 2015, HIV was the leading transfusion of transmissible infection in Nueva Ecija (Dacanay, 2017 unpublished). On the other hand, the respondents consider not entertaining people living with HIV as malpractice as seen in the data with a mean of 1.71. The respondents considered not having sex and having sex under the influence of alcohol as malpractice with a mean of 1.24 and 1.28 respectively. According to Abraham Maslow hierarchy of needs, sex was a physiological need for species alive and thriving for hundred years. It was a primal biological need for reproducibility and procreated. As he mentions, without sex, we are not humans, and it has a benefit to increase the evolutionary urge to populate the earth and one's life has self-fulfillment and he or she has to live your life to its fullest potential. As proof that no one could discriminate PLHIV, under section 3 of the Republic Act 11166 or the Philippine HIV and AIDS Policy Act, Discrimination, as defined, it refers to biased and unfair treatment or judgment in any form (2018).

According to the Philippine HIV and AIDS Policy Act Article II, there shall be an HIV and AIDS prevention program that would educate the public on the disease and other STIs to reduce their risky behavior, lower vulnerabilities, and promote human rights of PLHIV. The education and prevention control programs shall be age-appropriate, based on scientific strategies and up-to-date evidence to promote actively safer practices among the general population (sexual fidelity and sexual abstinence), correct and consistent use of a condom, other practices that reduce and lessen the risk of acquiring HIV infection, universal awareness, advocacy and access to all the evidence-based pertinent information and education, medically safe, legally inexpensive, effective and yet quality treatment and proving knowledge on health, civil, political, economic and social rights of PLHIV and their families (RA 11166, 2018). Respondents said they had never had sex before, and most of the participants did not use a condom during intercourse (Dzah, Tarkang & Lutala, 2019) & (Admassu et al., 2019).

It connotes that to reduce the risk of acquiring the disease, individuals need to understand that different behaviors carry different levels of risk. Hence, there is always a coordination to the agencies to advocate and make people aware on the preventive measures, safe practices, and procedures.

Coronavirus Disease (COVID-19)

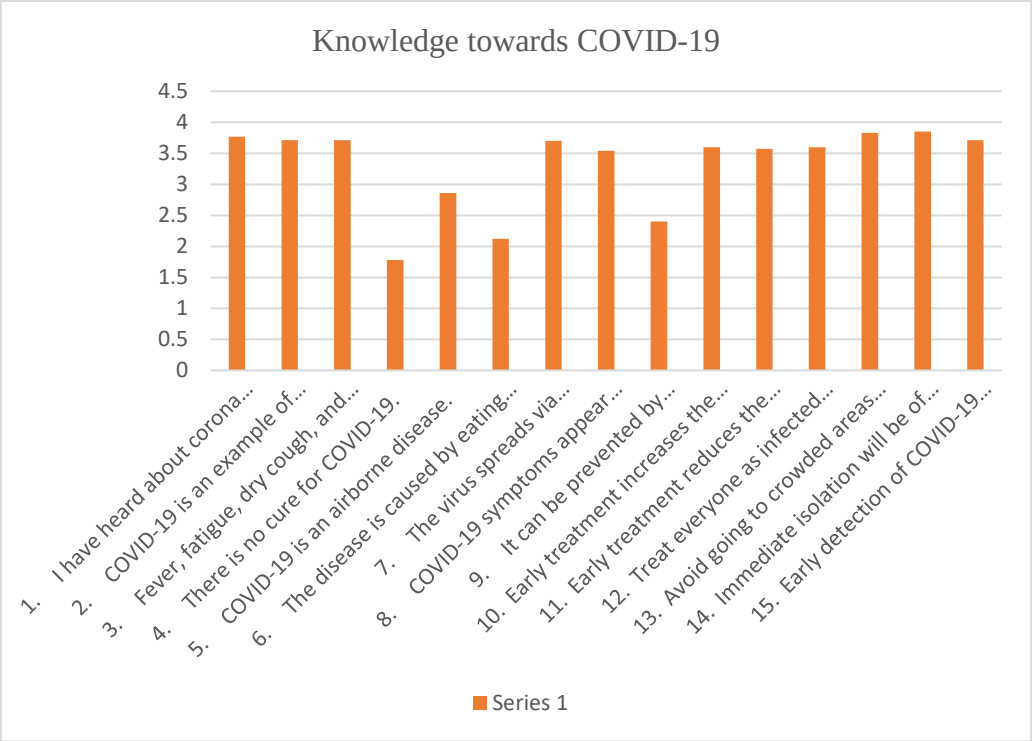

Figure 11. Weighted mean of the respondents on their knowledge towards Covid-19

The world is facing a global health pandemic where millions of people have been already infected, and thousands of lives are taken every day. The COVID-19 pandemic has become the major public health threat that challenges globally with countries embracing various and numerous protocols and guidelines on infection, prevention, and

control (Sabin et al., 2020). Table 14 and Figure 14 show the mean weighted average of the participants towards their awareness on the definition, manner of transmission, signs and symptoms, prevention measures, and treatment of COVID-19. The research findings showed that the respondents were highly knowledgeable in almost all aspects, especially on the proper prevention control (3.85) that isolation will help if a person is infected with the virus. Avoiding going to crowded areas to prevent acquiring the illness (3.83) and were already heard about the disease (3.77) were also among the items that the respondents are highly knowledgeable. Knowledge on the definition of the disease as contagious, its clinical manifestation, early detection to improve treatment and outcome was perceived as significantly knowledgeable (3.71).

Moreover, respondents knew that the virus was spread via respiratory droplets from an infected person (3.70). An early treatment regimen would increase the chance of survival (3.60) and reduce the virus's transmission (3.57). As mandated by the lead agency on health, the Department of Health (DOH, 2020), treat everyone as potentially infected (potentially carrier) with coronavirus, so safety measures would always follow (3.60). Respondents knew that COVID-19 would last for 2-14 days after infection (3.54), and they knew that the transmission of the virus was airborne (2.86).

On the other hand, they have been slightly knowledgeable on the origin of the disease (2.12), the prevention by avoiding contact with blood or body fluids (2.40), and no cure on the recent virus the COVID-19 (1.78). To assess the overall mean score of the respondents, they were said to be highly knowledgeable (3.32). In addition to this, a study conducted by Anozie et al. (2020) among health workers at the Alex Ekwueme Federal University Teaching Hospital was like the study results conducted by the researcher among teachers from the colleges and universities in Nueva Ecija. However, even if they knew about the COVID-19, there was a need for adequate training and retraining among the teachers for further guidelines and protocols mandated by the Inter-agency task force (IATF), Department of Health (DOH), and World Health Organization (WHO). Everyone should be aware of and educated on the interim guidelines on COVID-19.

It means that respondents know various mitigation to overcome the disease and isolation, and that discipline and unity are the best ways to protect everyone from acquiring the disease.

ATTITUDES ON COVID-19

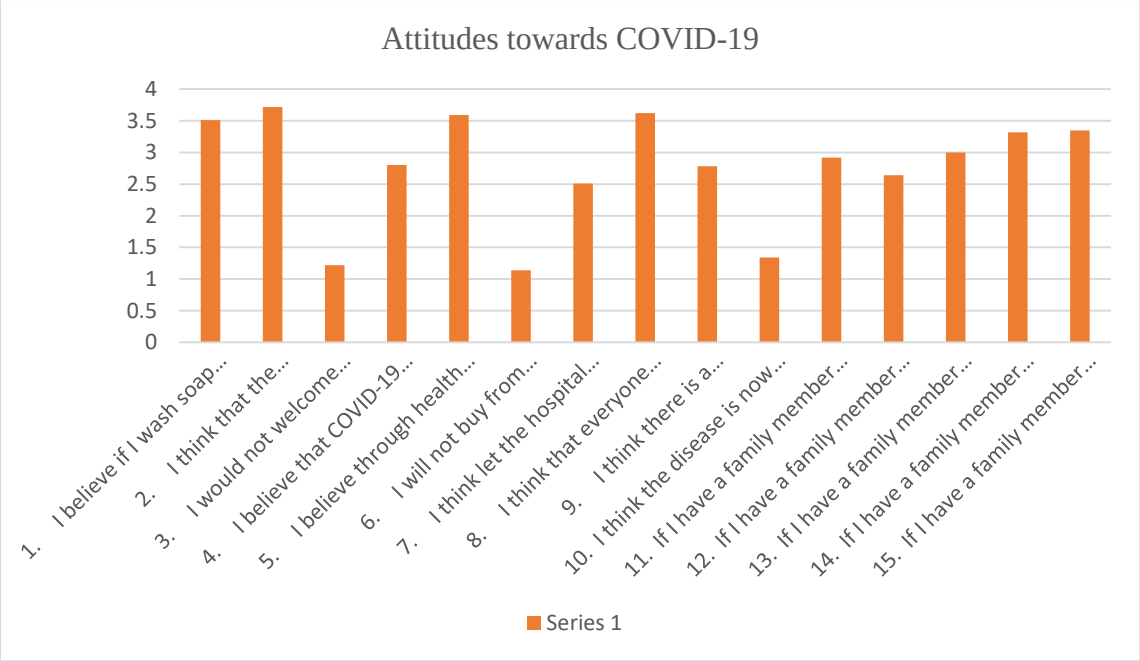

Figure 12. Weighted mean of the respondents on their attitude towards Covid-19

The study shows that majority agreed on the public health protocols and guidelines about COVID-19. The 3.72 weighted mean suggested that authorities should always prepare to restrict crowded areas to avoid virus spread.

The current situation on this COVID-19 pandemic caused a noticeable impact on people's lives. The perception and priorities regarding the daily routine have also been affected in this new normal.

In this study, most of the respondents have knowledge regarding disease transmission and preventive measures. They agreed that health education and training could help prevent infection from acquiring with a 3.59 mean value. According to World Health Organization, the COVID-19 virus spreads primarily through droplets generated from an infected person. To protect the self, respondents agreed that everyone should be vaccinated (3.62). However, being vaccinated does not mean that one will not get infected by the virus. Vaccination is an effective way to prevent people from getting seriously ill from COVID-19.

Also, the study shows that people still welcome the COVID-19 survivors in the community (1.22 of mean) despite the possible stigma and discrimination. It indicates that they truly understand the information about the disease. Knowing COVID-19 will help diminish the fear of the disease and support their ability to cope with any impact in their lives. Strategies and programs are implemented to control the COVID-19 pandemic. However, respondents believed that Coranavirus disease (COVID-19) is not yet successfully controlled (1.24 of the mean) as the incidence of infection is still high.

In general, the participants have a positive attitude on COVID-19 with a total mean of 2.76. In support of the findings of the study, humans were still the significant determinants of the spread and transmission of infectious diseases. Presently, COVID-19 is everywhere, and it is challenging to predict when it will end. Nevertheless, it is feasible to face the challenges brought about by the disease so that people need to adapt to the "new normal." People could also reduce or lessen the risk of transmission of infection by changing, reshaping, and recalibrating the human behavior, activities and implementing the improved and early warning schemes and effective measures and control prevention (Zhong, Luo, Li, Zhang, Liu, Li, Li, 2020). Thus, there should be an effective universal comprehensive surveillance, development of vaccines through the help of science and technology for improved diagnostics, effective and operative treatment, economic impacts, total political will, and multidisciplinary partnership involving all stakeholders especially the one in-charge in health sectors would be helpful and beneficial in responding to any forthcoming threats that affect locally and internationally pandemics (Sabin et al., 2019).

It means that the best way to prevent COVID-19 was to avoid being exposed to the virus. This is one part of managing the disease, in addition to wearing a face mask, handwashing, and physical distancing. There shall be a proper channeling and dissemination of information that will surely educate everyone on the proper intervention to the disease.

PRACTICES ON COVID-19

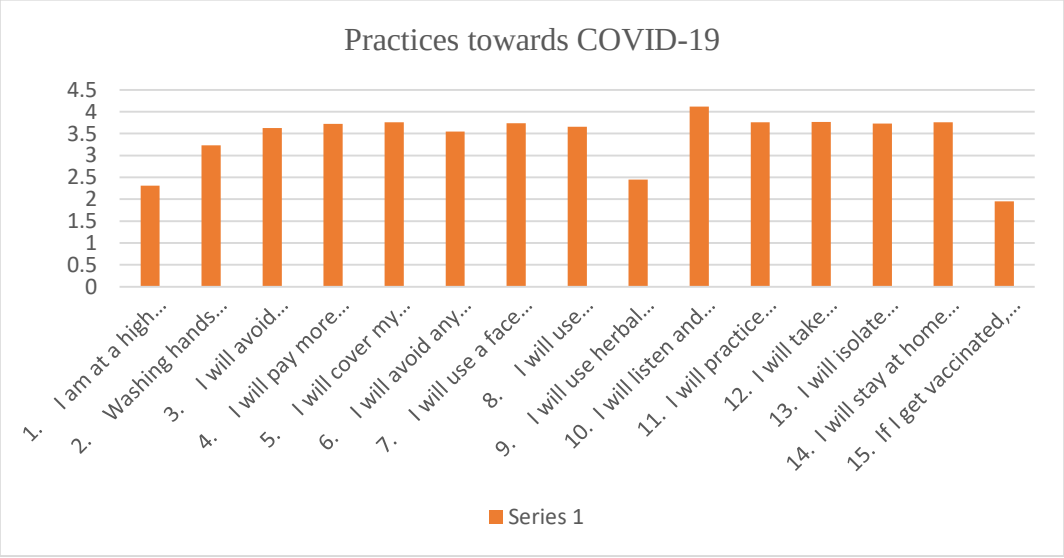

Figure 13. Weighted mean of the respondents on their practices towards Covid-19

Most of the participants held an optimistic practice towards the COVID-19 pandemic with 3.41 as general weighted mean for the best way to combat the disease. The table shows the other highly practiced by the respondents such as listening and following the directives of authorities for proper prevention (4.12), by taking vitamins daily for good health (3.77), staying from home to minimize the risk of infection (3.76), and covering of mouth whenever they cough or sneeze (3.76).

Moreover, vaccination would not guarantee the participants 100% protection (1.95). Respondents believe that they were at a high risk of infection with COVID-19 (2.31) and using herbal and traditional medicine and products to prevent the disease (2.45). A vaccination (immunization) was vital to build the body's natural immunity to a certain disease. The vaccination goal was to elicit an immune response against invading microorganisms.

According to the study, the perception of the governments in mitigating and alleviating the COVID-19 pandemic in Nigeria showed that only 25.3% were satisfied with the government's efforts in alleviating their role and responsibilities. COVID-19 vaccines should be developed and available based on the respondents and would accept the positive point of view of getting vaccinated for their personal protection. The respondents have greatly increased the rejection attributed to the anxiety and misconceptions regarding vaccination (Reuben, Danladi, Saleh & Ejembi, 2020). Respondents also understood that the community reduced the transmission of the virus due to the implementation of various guidelines and protocols on the prevention. With the plan of the government to initiate the continuous stretching of lockdown, the respondents assessed their adequacy about COVID-19 and related public health, socioeconomic factors, and psychological burdens (Reuben, Danladi, Saleh & Ejembi, 2020).

It means that the role and responsibilities of the public authorities will develop, evaluate, and improve the supervision to aid in the proper diagnosis, prevention, and control of emerging infectious diseases—likewise, development and assessment of drugs and strategies for cure and support to the infection. Appropriate and timely dissemination of the information to the public so everyone knows the proper practices and measures that they will perform to battle against this pandemic. There will be community awareness that plays a key role in leading to high-quality, informed decisions and improved access to healthcare. To minimize the risk of transmission, respondents will have to lessen a risk interaction between and among their family members, diminishing the contact with agent population and individual contact and reporting in the nearest facility whenever they had the symptoms.

Pulmonary Tuberculosis

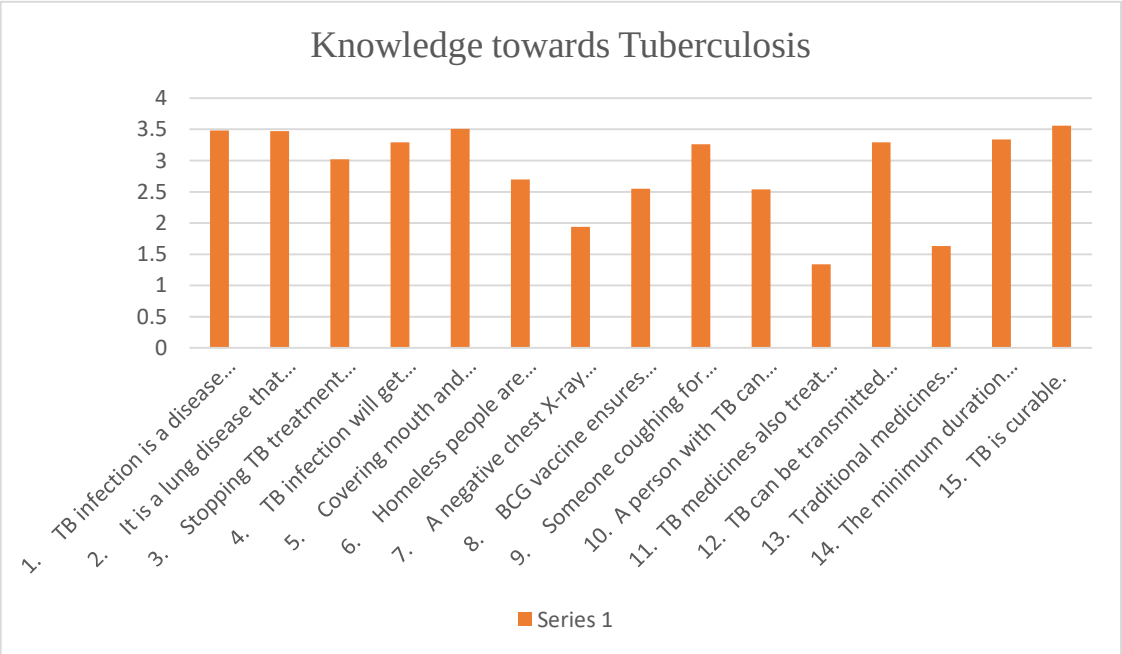

Figure 14. Weighted mean of the respondents on their knowledge towards tuberculosis

The participants answered 15 questions that focused on the knowledge regarding tuberculosis specifically, the meaning of Tuberculosis, the severity of the infection, mode of transmission, treatment and preventive measures, signs and symptoms, curability of the disease, and its laboratory diagnosis. The table and graph above represent the weighted mean and the verbal description of the respondents towards their knowledge on tuberculosis.

The participants who responded whether TB infection could be cured were highly knowledgeable with a mean value of 3.56. They believed that tuberculosis could be curable—as to study of Hibstu & Bago (2016). This result was highly substantial because it would help them accept and acknowledge the condition and conformed them to the treatment regimen (Alvarez-Gordillo et al., 2000) as cited by Solliman, Hassali, Al-Haddad Hadida, Saleem, Atif & Aljadhey (2012). With a mean score of 3.51, the respondents knew how to avoid the disease by covering their nose and mouth while coughing or sneezing. These responses, when correctly carried out, will control the spread of TB infection. Rated with 3.48, there were who responded that TB infection was a disease that can spread to one another. They knew how the disease would be transmitted via person to person (Solliman, Hassali, Al-Haddad, Hadida, Saleem, Atif & Aljadhey, 2012).

In contrast, the participant responded unknowledgeable with the treatment regimen between TB and HIV with a mean of 1.34. The individual treated with TB was not similar with the cure and treatment of HIV infection. Remember that bacteria caused TB while HIV was caused by a virus that targets the RNA content of the cell. Occasionally, some doctors used the treatment regimen if the person was linked to HIV-TB coinfection. Respondents were unknowledgeable that traditional medicine could cure TB (1.63). During the archaic time, people were known to benefit from the environmental resources to treat diseases. Still, in the modern era where traditional medicine was often used, the bacteria responsible for causing disease in humans was tough to target due to its biological and biochemical properties. TB generally affects the lungs and other parts of the body, including the brain, spine, and bones. Scientists currently consider TB more challenging due to drug resistance, meaning no antibiotic was fitted and accepted by the bacteria (DOH, 2020). A few doctors still believed in traditional medicine, but it could only be supportive of the treatment. This supportive medicine improved the individual's medication like having some sunshine to gather melanin and vitamin D, taking of garlic (anti-inflammatory), pineapple (enzymes), gooseberry (antioxidant) and moringa oleifera (anti-mycobacterial), Vitamin B and iron, drinking of milk to improve an individual with TB's condition (Idris, Zakaria, Muhamad, Husain, Ishak & Mohammad, 2020). With verbal description slightly knowledgeable and mean of 1.94, the respondents believed that negative chest X-ray excludes TB disease. Not all negative x-ray has no TB disease because the test would be supportive but not confirmatory for TB.

Meanwhile, the participants responded on the definition (3.47), how it was transmitted (3.29), signs and symptoms (3.26), and the treatment duration (3.34). All were interpreted as highly knowledgeable on the part of the respondents which would aid them to perceive the condition well with the transmission, treatment, and preventive measures towards the disease. In addition, respondents had enough knowledge on drug resistance (3.02) and susceptibility (2.70), their insight on the BCG vaccine (2.55) which should be greatly emphasized so that awareness and immunization be administered for proper protection against the top ten leading causes of mortality in the country. The link between TB and HIV should also be highlighted because of its serious health threat. It is important that education discusses the link between the two diseases because TB was an opportunistic infection, meaning this infection occurs more often and is more severe among people with weakened immune systems or immunocompromised individuals. HIV also weakens the immune system, increasing the risk of infection of TB among people living with HIV.

The overall mean of the respondents on the knowledge towards tuberculosis was 2.86 or they are knowledgeable enough regarding TB. Most of the participants are aware of the transmission of tuberculosis through infected air droplets, the manner of transmission (majority answered through pregnant mothers an infected person), and its signs and symptoms such as chest pain, cough for than two weeks, weight loss, loss of appetite, fever and night sweat, tiredness, and blood in the sputum (Sah et Al., 2016). Respondents said that detection of tuberculosis was said to be by determination of sputum, and chest x-ray identification helps to detect the disease. Also, all the respondents said that tuberculosis was a curable disease and knew that a person who contracted the disease should not be admitted to the hospital for treatment. Lastly, common among them were faithful on tuberculosis to be prevented and knew that BCG vaccination against the disease would be the vaccine for TB.

(Behnaz,Mohammadzade,Mousavi-e-roknabadi, Mohammadzadeh, 2013).

It means that the respondents believe that TB is preventable, manageable, and curable by improving knowledge, strengthening accurate information dissemination, and correcting incorrect stigma against tuberculosis.

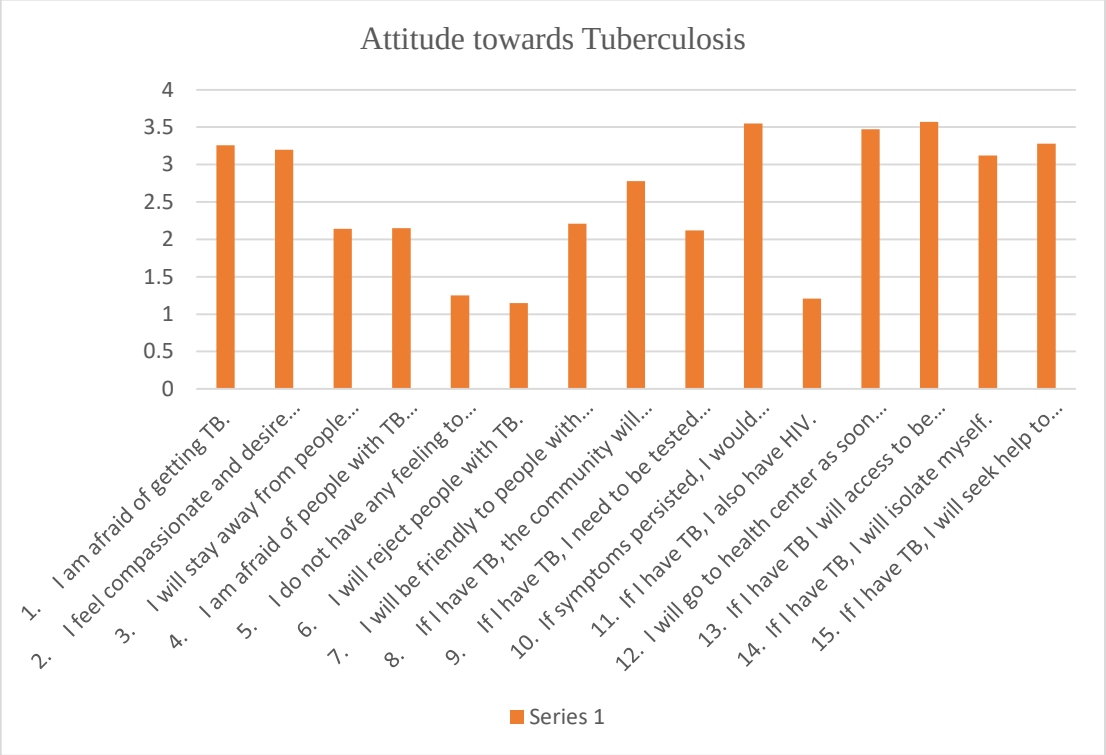

Figure 15. Weighted mean of the respondents on their attitude towards tuberculosis

Regarding the participants' attitude towards TB, they have a 2.56 mean value, and they were said to be mannered. Most of them would want to be treated and cured if they obtain and acquire the disease (3.57). Since the majority wanted to be cured if they have TB, consultation must be done to treat the disease (3.55) properly. They wanted to seek help from their family members (3.28) for a comfort zone and positive thoughts about aspects of life.

Rejection, co-infection, and humiliation garnered 1.15, 1.21, and 1.25 weighted means respectively. Some ethnicities consider TB witchcraft. If a person has the disease, it could be a 'curse' on a family; respondents knew that TB is an airborne illness, likely to spread among people living in proximity (Kasa et al.,2019). TB was often associated with various factors that could create stigma. Infected people would be discriminated and may be isolated socially, particularly in small communities where entire families may be shunned. Infection control measures were deemed acceptable among their respondents in primary health care (Kigozi et al., 2017). The impact of this stigma among individuals with TB infection would be fear of discrimination and could mean people with TB symptoms would delay seeking help, making them more ill and infected others. Stigma on TB could also make people reluctant to stick with their course of treatment, making them at risk for developing drug resistance. There were 98% and 91% of the respondents reported that TB was a severe disease and caused public health problems in Bhutan. Most of them (84%) reported that they were at risk of acquiring TB infection. Almost half (49%) of them mentioned that they would feel to support those people with TB compassionately and desire.

Nevertheless, half of them were also stigmatized based on their attitude towards TB patients. Overall, 93% of the participants had a good attitude towards TB-positive patients (Dorji et al., 2020). The treatment regimen was also improved on their study by providing appropriate knowledge through various seminars and training regarding TB (More, Doshi, Baghel & More, 2019). Similar to the study in Iran, they were more curious about the treatment prevention if they had a TB disease (Mobolanle Rasheedat Balogun et al., 2019). It means that the respondents are aware towards the treatment, care and are more vigilant on the positive attitude when pertaining to tuberculosis infection.

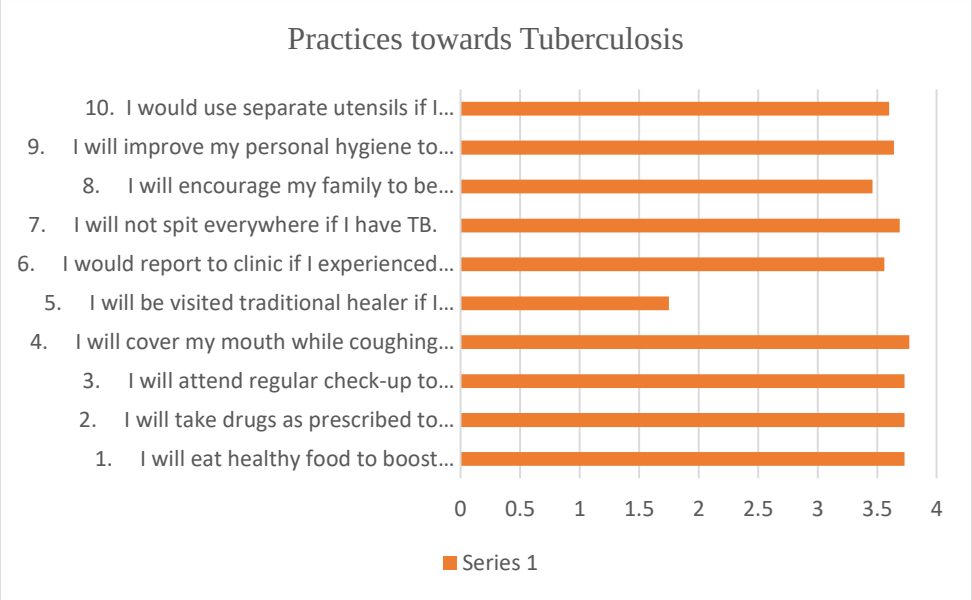

Figure 16. Weighted mean of the respondents on their practices towards tuberculosis

The study's finding indicated that there would be high practicability (3.47) towards tuberculosis, especially on the control, prevention, and measures. They would prevent their mouth by covering it during sneezing and coughing (3.77). The study also concludes that coughing through covering their mouth surely prevents them from acquiring the disease (Kasa, Minibel & Bantie, 2019) which is also similar to the practices in Iran where people are always covering their mouth prevent from acquiring the infection (Mobolanle Rasheedat Balogun et al., 2019). Covering mouth and nose when sneezing and coughing would be the practice due to their analysis (Hibstu & Bago, 2016). Consultation and regular checkups would be of immense help; taking appropriate and prescribed drugs would not worsen the individual with infection. Eating healthy food will boost the person's immune system (3.73). They knew that they would not spit everywhere if they had TB disease (3.69) because they needed to consider the mode of transmission of the bacteria. The 1.75 mean score means that the respondents are practicing visiting the traditional healer if they will be diagnosed with TB.

Based on their practice of TB, patients had a mean score of 1.33 (Range:0–2). The majority of the respondents (88.1%) said that they would visit the nearest hospital if they will have symptoms that are suggestive and suspected of TB. Interestingly, they responded that they would visit medicinal shops or conventional healers. The majority of them reported that they consulted the doctor to discuss TB signs & symptoms. However, they would talk regarding TB indications to close friends and point out that they disclose to their spouse (Dorji et al., 2020). Wearing a facemask was a good practice, and it was correlated with their belief in keeping themselves distant from the infectious individual (Behnaz, Mohammadzade, Mousavi-e-roknabadi, Mohammadzadeh, 2013). It suggests that the practice of the respondents knows that everyone will help to control TB by doing safe practices so that, people surround them will not be harmed.

Dengue Fever

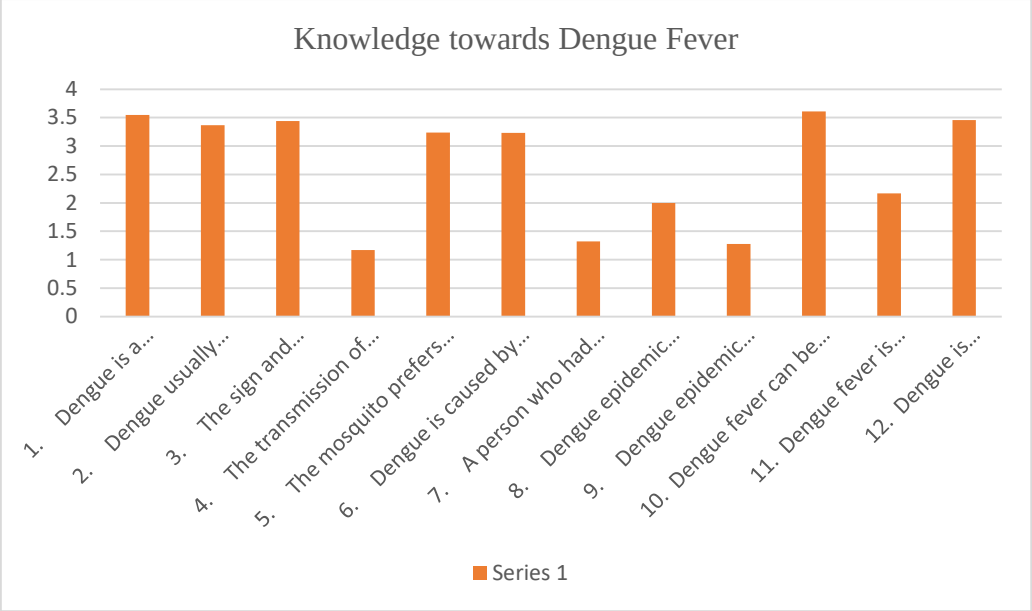

Figure 17. Weighted mean of the respondents on their knowledge towards dengue fever

Globally, Dengue Fever (DF) is the most rapidly transmitting mosquito-borne viral disease in tropical regions of the biosphere. It has become an impact and global public health dilemma. Table 20 and Figure 20 summarize the weighted mean on dengue fever. The level of knowledge that dengue fever can be fatal was high. Respondents knew that it was a mosquito-borne disease (3.55). According to WHO (2018), dengue fever was the most critical and rapidly spreading mosquito-borne viral disease globally and reported that KAP survey and the extensive entomological study were important (Syed et al.,2010; Hafeez et al.,2012; Gunasekara et al., 2012). Van Benthem et al. (2012) emphasized the need for knowledge in controlling the disease (Manzoor, Farooq, Kanwal & Bibi, 2015). Dengue could be manageable and preventable (3.46) because there was no specific medicine to treat dengue and only supportive care was advised and administered. Respondents are aware of signs and symptoms (3.44) and the appearance of fever after being bitten by a mosquito (3.37). According to the WHO (2018), the mosquitoes bite during the day, especially between 6 -8 in the morning and 4 – 6 in the evening with abrupt onset of high fever, severe frontal headache, muscle, and joint pain, loss of sense of taste and appetite, measles-like viral onset over the chest and upper limbs, nausea, and vomiting.

Respondents were knowledgeable regarding the habitat where the mosquito resides (3.24) and its etiological agent (3.23) and slightly knowledgeable on the occurrence during the rainy season (2.00). Meanwhile, the respondents were unknowledgeable on the transmission of DF by an infected person by touching (1.17). Remember that people can be infected by mosquito-to-human and vice versa, vertical transmission of a pregnant mother to her baby and sexual transmission (1.32). The 1.28 mean score on the respondents' belief that they are unknowledgeable that disease occurs only during the dry season, and the person who had dengue cannot be reinfected (1.32) again. As to overall mean scores, respondents have adequate knowledge (2.65) towards DF. According to the study of Hamfadi, Rasudin & Ghafar (2019), most respondents have a moderate level of knowledge (64.4%) on the same disease. Most of the respondents realized that dengue was transmitted through the bite of Aedes and caused a severe flu-like illness. There were 66.8% of them knew that the rainy season was the dengue outbreak. More than 90% answered that Aedes breed in stagnant clear water, vector of mosquitoes must be combatted, and water tank without lid must be cleaned weekly. In support to the result of the study, the majority knew correctly the typical symptoms of dengue as fever, joint pains, headache, nausea, and vomiting. They knew that Aedes mosquitoes transmit the disease, and stagnant water was the main source for mosquito breeding. Many participants are aware that removing stagnant water and tightly covering water containers can prevent mosquito breeding and reduce contact with mosquitoes. Consulting the physician, taking enough and plenty of rest, drinking plenty of water were the best management for treating DF. Most respondents agreed that dengue is a serious illness (Muhammad Amin AZ et al., 2019). Human knowledge and behavior towards the environment play a significant role in dengue

transmission (Mizanur et al., 2020). It means that proper knowledge will be substantial on managing and preventing the mosquito borne virus, its etiology, transmission, and prevention control.

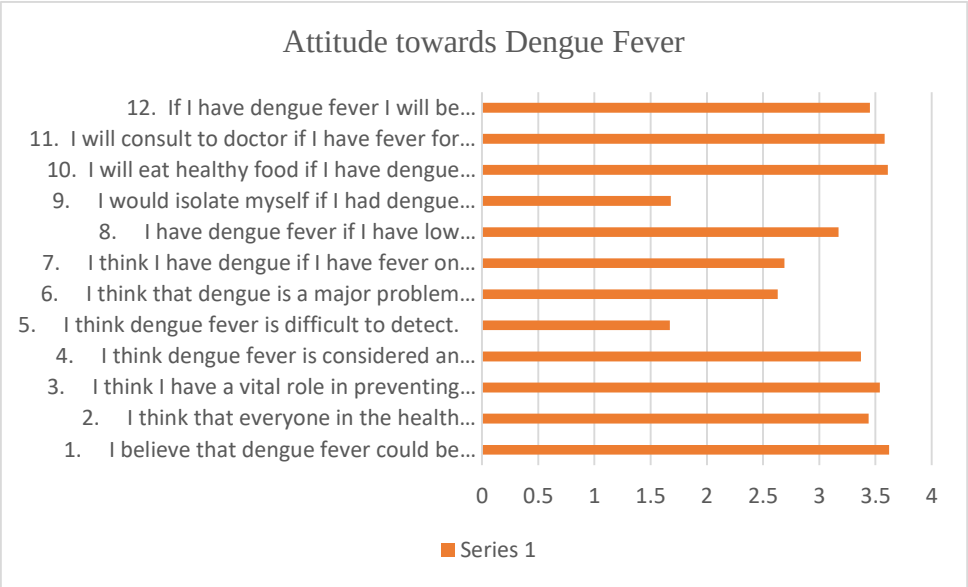

Figure 18. Weighted mean of the respondents on their attitude towards dengue fever

The weighted mean of the respondents which also show that they possessed a good-mannered attitude towards Dengue Fever. Respondents were highly mannered on believing that DF could be prevented, controlled, and managed (3.62). Likewise, in the same research topic in Bangladesh, majority of the respondents have a positive attitude about the severity, avoidance, and disease diagnosis (Mizanur et al., 2020). Mean scores of 3.61 and 3.58 also showed that they eat healthy food if they have dengue fever and consult a physician if they have fever for more than five (5) days, respectively. Participants have an attitude on the notion that DF was difficult to detect (1.67), and isolation would be done if they acquire the disease (1.68).

As justification with the result of the study, DF was a momentous health problem in the world, and the respondent's attitude agreed on the impact and importance of condition and movement, their arrangement on the implication of preventive measures and control pertaining to DF (Ibrahim, Al-Bar, Kordy & Fakeeh, 2020). Another literature entailed that almost all the participants considered that DF was dangerous for their families and that working for dengue prevention would benefit them. The highlight of the research showed that respondents were responsible enough for dengue management, prevention control, and visiting the nearest hospital if they obtained the disease (Uematsu & Mazier, 2016). Similarly, the outcome of the study showed that teachers from various colleges and universities in Nueva Ecija were highly mannered (3.04) on the prevention measures, management, and control of DF. In addition, in a study conducted among Peashawar Garrison teachers, the respondents showed a positive attitude towards DF prevention. The study was due to the high educational level of the participants. Most of the participants demonstrated strongly positive attitudes towards DF prevention. The majority agreed that breeding places of mosquitoes could control the spread of DF. The findings related to good attitudes towards DF prevention were consistent with the study carried out in other countries (Lakhiar, Sajid, Khan, 2016). The Department of Health (DOH) intensified the “To-DOH Laban sa Dengue,” the strategies to reinforce the campaign for the dengue. The 4S of the DOH are: (1) search and destroy mosquito breeding sites; (2) self-protection measures, such as using insect repellents and wearing long-sleeved light-colored clothes; (3) seeking early consultation for fever that lasts for about two days; and (4) saying no to indiscriminate fogging. It denotes that they are responsible citizens in the community because of proper behavior in mitigating the cause of dengue fever to them.

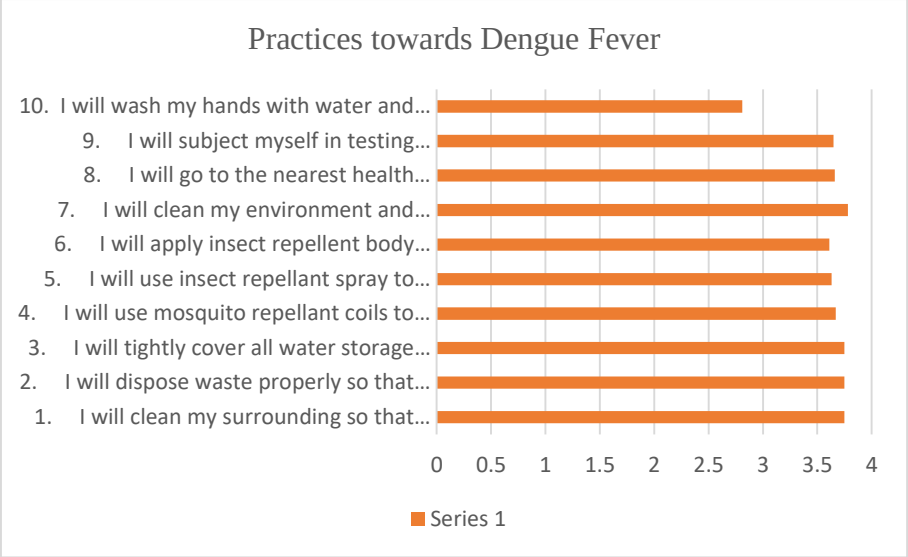

Figure 19. Weighted mean of the respondents on their practices towards dengue fever

The participants' good practices for the proper prevention of dengue. Almost all the participants were said to be highly practicing (3.61) the proper practices the prevention control towards DF. They highly practice cleaning of environment and surroundings to avoid the breeding of mosquitoes (3.78), cleaning to avoid laying of mosquito eggs (3.75), proper waste disposal (3.75), covering of water storage at home tightly (3.75), using of mosquito repellant coils to prevent mosquito bite (3.67), going to the nearest health facilities and testing when there are signs and symptoms (3.66 and 3.65), using of mosquito spray and lotion (3.63 and 3.61), and washing of hands with soap to prevent the infection. The WHO (2018) prescribed NO MOSQUITOES=NO DENGUE in their campaign. They also recommended to ONCE A WEEK empty water storage container, scrub the insides and reseal carefully after refilling, clean the insides of flower vases, plant pots, or pet bowls and change the water, clean drain and gutters, dispose of any unused containers, and objects that can accumulate water, turn over any containers that cannot be thrown away and protect them from rain. Even a bottle cap can contain enough water for a mosquito to breed. According to the study of Uematsu & Mazier (2019), they kept their gardens and drained them clean. Half of their participants used insect repellent or mosquito nets to avoid the disease. Good preventive practices on dengue must be necessary. Closing the lid of container quickly after using, altering the water in garden container weekly, safeguarding garbage or rubbish can hinder drainage system, using domestic mosquito repellent and mosquito net to sleep were the most commonly upright practices among the 100 respondents (Rhaman, Farhana, Majumder, Akter, Rajib, Haque and Afroz, 2020). Remember that prevention is better than cure. Respondents were aware on the danger brought by the dengue fever. They avoid it by practicing health sanitation specially controlling the vector mosquito.

The significant relationship between the respondents' demographics and their knowledge. The p-values for school affiliation, gender, educational attainment, type of higher education institution affiliation, and subject handled were 0.911, 0.865, 0.255, 0.658, and 0.069 respectively. The results show no significant relationship since the computed p-values were greater than the critical value at 0.05 level of significance. Thus, there was strong proof that the alternative hypothesis was accepted, and the null hypothesis was rejected. In comparison, the age and number of years in teaching had a significant relationship since the computed p-values of 0.05 and 0.02, respectively ($p \leq 0.05$) are less than or equal to the critical value of 0.05 level of significance. Thus, there was strong evidence that the alternative hypothesis was rejected, and the null hypothesis was accepted. The results imply that based on socio-demographic profile variables age and the number of years in teaching, the respondents were knowledgeable enough when it comes to emerging infectious diseases because teachers who are at younger age and have lesser years in the teaching profession should be more persuasive to attend various training and seminars for their professional growth and development. The age and number of years are more significant because the respondents at this stage are more eager to learn and teach, they are more curious, and interested in whatever study they go through. They often share their experiences among their age group. Most experienced

teachers are more effective and can continue to expand their expertise. Teaching experience is positively associated with student achievement gains throughout a teacher's caree

The significant relationship between the respondents' demographics and their attitudes. Based on the table, the p-values for school affiliation, gender, educational attainment, type of higher education institution affiliation, and subject handled were 0.595, 0.287, 0.271, 0.714, and 0.056 respectively. The results show no significant relationship since the computed p-values were greater than the critical value at 0.05 level of significance. Thus, there was strong proof that the alternative hypothesis was accepted, and the null hypothesis was rejected. In comparison, the age and number of years in teaching had a significant relationship since the computed p-values of 0.02 and 0.01 respectively ($p \leq 0.05$) were less than or equal to the critical value of 0.05 level of significance. Thus, there was strong evidence that the alternative hypothesis was rejected, and the null hypothesis was accepted. The results on socio-demographic profile age and number of years in teaching suggested that the respondents were positive attitude enough when it comes to emerging infectious diseases. As per the study, it explained that gender differences also be relevant better to the younger age groups than the older ones. In their behavioral environment, men were more into fitness work-related, health risk actions, and sensation seeking, being more indifferent to communicable infection than women. The ultimate health risk behaviors point, such as intense sport, alcohol, and drug utilization, driving, and sexual activities, were undertaken by men and suggested to correspond to the age of 35. In contrast, sensation-seeking was suggested to peak in the 20's. Moreover, women were more anxious about the cause of infectious and contagious clues when they were of child-bearing age, pregnant, or raising and growing young children that occur in younger women. The reality that most studies on age and gender differences which have been performed on samples of young adults explained why these variations were not so evident in studies and should include a wider range of ages (Diaz, Beleña & Zueco, 2020).

The significant relationship between the respondents' demographics and their practices. The p-values for school affiliation, age, gender, educational attainment, type of higher education institution affiliation, and subject handled were 0.689, 0.063, 0.814, 0.200, 0.766, and 0.268 respectively. The results show no significant relationship since the computed p-values were greater than the critical value at 0.05 level of significance. Thus, there was strong proof that the alternative hypothesis was accepted, and the null hypothesis was rejected. In comparison, the number of years in teaching had a significant relationship. The computed p-value of 0.01 ($p \leq 0.05$) is less than or equal to the critical value of 0.05 level of significance. Thus, there was strong evidence that the alternative hypothesis was rejected, and the null hypothesis was accepted. The number of years of teaching was significant on their practices because of their experience. The practice was based on the experience of respondents in their teaching careers and profession. The impact and influence of experience were most vital during the first few years of teaching; after that, marginal returns diminished. Several studies confirmed findings from current and existing research that, on average, brand new teachers are less effective than those with some experiences under their girdles (Clotfelter, Ladd, and Vigdor 2007a, 2007b; Harris and Sass 2007; Kane, Rockoff, and Staiger 2006; Ladd 2008; Sass 2007). Furthermore, the disparity abrasion of teachers with several levels of efficiency may confound conclusions about the effects of teaching experience. While some evidence suggested that teachers who remained to teach after three years were less effective on average than those who left (Clotfelter et al. 2007a), other research found that less effective teachers were more likely to transfer and leave teaching (Boyd et al. 2009; Goldhaber, Gross, and Player 2007; Harris and Sass 2007) as cited by Rice (2010).

The correlations between and among the three variables, knowledge, attitudes, and practices, are significant at 0.01 level.

Pearson product correlation about knowledge and attitudes was strongly positive and statistically significant (r = 0.798, $p < .001$). Hence, Ho was not supported. It shows that an increase in knowledge about illness would lead to a higher attitude regarding emerging infectious diseases.

Pearson product correlation about knowledge and practices was found to be strongly positive and statistically significant (r = 0.758, $p < .001$). Hence, Ho was not supported. It shows that an increase in knowledge about illness would lead to higher practices to combat and be free from sickness.

Pearson product correlation about attitude and practices was strongly positive and statistically significant (r = 0.755, p < .001). Hence, Ho was not supported. It shows that an increase in attitudes about illness would lead to higher practices to eliminate emerging infectious diseases.

Based on the findings of the study, there was a strongly positive and statistically significant level on their knowledge, attitudes, and practices on emerging infectious diseases (Goyal B et al.,2015). The respondents have the right knowledge on the emerging infectious diseases and the attitudes and practices they would follow, especially on their lifestyle and behaviors preventing them from those emerging diseases. The positive correlations between knowledge-attitude, knowledge-practice, and attitude-practice in this study reaffirmed that the level of knowledge contributed to attitude and practice dealing with infection control measures (Thanavanh B et al., 2013). Adequate knowledge could lead to a positive attitude following good and proper practices. The findings were in line with the results stated by Singh et al. in 2010 as cited by Ul Haq et al. (2012). Broad health education movement, advocacy, and awareness should be provided to the general population and educators. They suggested the adaptation of collective effort, support, and care where the medical health care team plays their crucial role in providing awareness and education to the society. Inspiring the people by supporting and giving them sufficient education and targeting one member of each family to have adequate information could help and lead to the proper management and control of the infection (ul Haq et al., 2012). The predictor of having good knowledge was growing, especially in age, education, and occupation, so the study concluded that good knowledge was also a predictor of good practice (Mobolanle Rasheedat Balogun et al., 2019). In this sense, health education aims to provide and influence knowledge, attitudes, and practices positively connected to health. Respondents will learn how to take good care of themselves and others by enhancing proper communication from the local up to the national and global levels, protecting everyone for the transmission of diseases, and ensuring good hygiene practices.

The respondents' perceived impact on emerging infectious diseases (EID). Questions were composed of 17, and participants responded that the impact risk questions given by the researcher were highly relevant (3.48). Educators need to have suitable and adequate knowledge, proper attitude, and right practices on EID because they serve as the leading and key foundation in concerning and educating EID among students and the community. The respondents keep a close look on how EID was carried out, especially on transmission, the proper prevention and control measures, and controlling and monitoring in the detection and identification of EID. Also, those EIDs were well-known and recognized by the respondents.

Since 1980, the world has been vulnerable to various waves of evolving and re-emerging diseases that lead to pandemics. In the 21st century, these diseases have become escalating and expanding global concerns because of their economic and health impacts on both developing and restricted countries. It was difficult to stop the incidence and occurrence of new pathogens in the future due to the interconnections with and among humans, animals, and the environment. However, it is possible to face a new disease or to reduce the risk of its spread by implementing better early warning systems and effective, precise, and efficient disease control and prevention, like effective global surveillance, development of new technology for healthier and improved diagnostics, effective and efficient treatments, and vaccine mass production, the comprehensive political plan will respond to various threats and multidisciplinary collaboration involving all sectors especially those who were in charge to health. This review normally describes aspects of human activities and exhibits how they can play a role in the transmission of infectious diseases (Sabin et al., 2020).

The overall findings indicate that people across Europe and East Asia regard newly emerging infectious diseases as significant, serious, and potential health threats and hazards based on information they received from a wide range of different sources with clear differences between countries and regions. These differences appear not to be necessarily associated with the proximity of an outbreak. It remains unclear if their cultural differences or experiences with an outbreak explain these differences in risk perceptions and beliefs. Given the clear and present danger of newly emerging infectious disease outbreaks and the importance of the public response and precautionary actions, preventive measures control the spread and transmission (Brug, Aro & Richardus, 2009). The perceived barrier to condom use, perceived condom use, self-efficacy, and socio-demographic variables correlate in the study (Nubed & Akoachere, 2016). It means that the respondents will be retrained, trained, educated, aware and advocated on all MUST practices and attitudes. Respondents will continue to read to become

more wide readers especially on dealing with EIDs for more updates. Lastly, integration of the EIDs in the curriculum will be good step so that everyone will be well-educated and well-prepared, aware, and will practice the proper mitigation.

School-Based Health and Welfare Manual

The manual was conceptualized because of the threat of emerging infectious diseases that threaten people's health and lives. This manual, although not all-encompassing, will, to some extent, aid the reader in understanding each disease and be able to be a part of the solution in helping to prevent the emerging threat that these microorganisms pose to all individuals. Although the output was prepared and intended primarily for the faculty members that become a respondent to the study, other health science students and health professionals can use it for guidance. The manual describes the epidemiology and scope of selected emerging infectious diseases common in the Philippines and factors involved in the transmission of diseases, identifies and plays an active role in the prevention and control measures of each infectious and emerging disease, and organizes and implements effective health education measures in managing patients with communicable diseases.

The significance of discussing and studying the selected emerging infectious diseases was meant particularly for one to become more knowledgeable and precise when teaching and studying infectious and emerging diseases to students and the lay community.

This manual serves the reader: to become proactive and be ready to recognize the disease, its pathogenicity, and its effects on its host; to be able to help in the control and prevention of the different infectious diseases and the microorganisms responsible for it; to help in arriving at a proper diagnosis which in turn may lead to the control of the disease; to discuss monitoring measures as well as detection of the methods used for their identification; and lastly to aid in the treatment and prevention of infectious diseases herein discussed.

CONCLUSIONS

Based on the above findings, the following conclusions were drawn: (1)The demographic profile and characteristics of the respondents were said to be from 20-30 years old age, female, holding bachelor’s degree as the highest educational attainment, having three (3) years and below in the teaching profession, both from the public and private higher education institutions, and mostly handling non-health related subjects; (2) The teachers' overall assessment based on their knowledge was that they are generally knowledgeable, they have positive attitudes, and they are slightly practicing all the necessary infection prevention and control towards human immunodeficiency virus. They were also said to be highly knowledgeable, have a positive attitude, and optimistically practicing towards the corona virus disease-19 pandemics. The respondents were also knowledgeable enough regarding tuberculosis, had genteel attitude, and highly practicing when pertaining to control, prevention, and measures towards tuberculosis. The participants have adequate knowledge, highly positive attitude, and are highly practicing the proper mitigation prevention, control, and measures to combat dengue fever; (3) The age and number of years in teaching had a significant relationship based on knowledge and attitudes while the number of years in teaching had a significant relationship in terms of practices. The other demographics were not significantly related with the knowledge, attitudes, and practices; (4) It shows that an increase in knowledge about illness would lead to a higher attitude regarding emerging infectious diseases and higher practices to combat and be free from sickness. Also, an increase in attitude about illness would lead to higher practices to eliminate emerging infectious diseases; (5) The perceived impact risks of the participants based on the findings of the study were said to be highly relevant and concluded that educators have the appropriate and sufficient knowledge, attitudes, and practices on EID as they are the leading and key foundation in making students and community to become more knowledgeable and precise about EID; and lastly, (6) Output school-based health and welfare manual for the proper knowledge, attitudes, and practices towards the handling of infectious diseases will be useful for teachers.

The following recommendations are hereby raised: (1) There is a need to extend the study among other colleges and universities or in the other provinces so that more participants could respond to the study. This will create more impact and influence to other faculty members from the higher education institutions to have a better grasp and interest in improving one’s knowledge, attitudes, and practices on emerging infectious diseases;

(2) Health education should be necessary to educate everyone about the lifestyles and the behaviors that prevent people from acquiring the disease. The respondents should give this health education that should influence and affect a person's knowledge, attitudes, and practices connected to health in their positive ways and aspect to maintain good health appropriately and suitably; (3) As the key provider of knowledge and role model among students, enhance more the knowledge and skills of teachers by also encouraging other members of the profession to continue participating in various professional development, training, seminars, advocacy, and involve and conduct multidisciplinary research so that everyone will share their technical expertise especially about infectious diseases; (4) Proper knowledge, the right attitude, and good practices are vital in achieving better health care. Having awareness and advocacy to the community through the effort of the teachers will surely empower everyone's mind on appropriate tools, information, and skills to make them high-quality, informed on the proper infection and prevention control, treatment, support, and care; (5) Educators should continue their legacy and contribution in strengthening disease surveillance so that soon, the community members can combat and protect themselves from the health threat caused by emerging infectious diseases; and (6) The manual may be used as the basis and guide among Higher Education Institutions on the proper mitigation to battle and combat the disease caused by unseen invaders that harm the human body.

REFERENCES

[1] Allen, M. (2017). *The SAGE encyclopedia of communication research methods* (Vols. 1-4). Thousand Oaks, CA: SAGE Publications, Inc doi: 10.4135/9781483381411

[2] Anozie, O. B., Ikeotuonye, A. C., Nwokporo, E. I., Esike, C. U., Ewah, R. L., Azuogu, B. N., ... & Ukaegbe, C. I. (2021). Assessment of knowledge, attitude, and practice of COVID-19 guidelines among health care workers in Alex Ekwueme Federal University teaching hospital, Abakaliki, Ebonyi State, Nigeria. International Journal of Research in Medical Sciences, 9(1), 39.

[3] Asemahagn, M. A. (2020). Factors determining the knowledge and prevention practice of healthcare workers towards COVID-19 in Amhara region, Ethiopia: a cross-sectional survey. Tropical medicine and health, 48(1), 1-11.

[4] Awareness, Y. (2020). attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. International Journal of Biological Sciences, 16(10).

[5] Balogun, M. R., Sekoni, A. O., Meloni, S. T., Odukoya, O. O., Onajole, A. T., Longe-Peters, O. A., ... & Kanki, P. J. (2019). Predictors of tuberculosis knowledge, attitudes and practices in urban slums in Nigeria: a cross-sectional study. The Pan African Medical Journal, 32.

[6] Brug, J., Aro, A. R., & Richardus, J. H. (2009). Risk perceptions and behaviour: towards pandemic control of emerging infectious diseases.

[7] Crossley, M. L. (2004). An investigation of dentists' knowledge, attitudes and practices towards HIV+ and patients with other blood-borne viruses in South Cheshire, UK. British dental journal, 196(12), 749-754.

[8] Dewi, A. P. (2019). The effectiveness of health education using audiovisual media on increasing family behavior in preventing dengue hemorrhagic fever (DHF). Enfermeria clinica, 29, 30-33.

[9] Diallo Mbaye, K., Fortes, L., Lakhe, N., Cisse Diallo, V. M. P., & Ka, D. (2019). Knowledge, attitudes and practices regarding ebola virus disease among students at a school of medicine in dakar, senegal. J. Infect. Dis. Epidemiol.

[10] Diaz-Quijano, F. A., Martínez-Vega, R. A., Rodriguez-Morales, A. J., Rojas-Calero, R. A., Luna-González, M. L., & Díaz-Quijano, R. G. (2018). Association between the level of education and knowledge, attitudes and practices regarding dengue in the Caribbean region of Colombia. BMC public health, 18(1), 1-10.

[11] Díaz, A., Beleña, Á., & Zueco, J. (2020). The role of age and gender in perceived vulnerability to infectious diseases. International journal of environmental research and public health, 17(2), 485.

[12] DOH, 21 July 2020

[13] Dorji, T., Tshering, T., & Wangdi, K. (2020). Assessment of knowledge, attitude and practice on tuberculosis among teacher trainees of Samtse College of Education, Bhutan. PloS one, 15(11), e0241923.

[14] Fatemah, B., & Golnaz, M. (2014). Assessment of knowledge, attitudes and practices regarding tuberculosis among final year students in Yazd. Central Iran. J Epidemiol Global Health, 4, 81-5.

[15] Fatimah, S., WO, W. N. A., AZ, M. A., & Razif, D. (2019). Knowledge, Attitude and Practice towards Dengue Fever among University Students. KnE Life Sciences, 53-63.

[16] Giles, P. P. (1970). Risk Perception, HIV/AIDS Related Knowledge, Attitude and Practice of the University Community: the case of Ethiopian Civil Service College. Sci-Afric Journal of Scientific Issues, 19-26.

[17] Héman, K. B. (2019). Knowledge, Attitudes and Practices of Health Care Professionals on Ebola Virus Disease in Democratic Republic of the Congo. Open Access Library Journal, 6(7), 1-13.

[18] Hibstu, D. T., & Bago, B. J. (2016). Knowledge, attitude and practice of tuberculosis and its transmission among high school students in Yirgacheffe town, Gedeo zone, southern Ethiopia. J Infect Dis Preve Med, 4(1000142), 2.

[19] Holakouie-Naieni, K., Ahmadvand, A., Owais, R. A. Z. A., Assan, A., Elduma, A. H., Jammeh, A., ... & SAEED, S. N. (2015). Assessing the knowledge, attitudes, and practices of students regarding ebola virus disease outbreak. Iranian journal of public health, 44(12), 1670.

[20] Idris, N. A., Zakaria, R., Muhamad, R., Husain, N. R. N., Ishak, A., & Mohammad, W. M. Z. W. (2020). The Effectiveness of Tuberculosis Education Programme in Kelantan, Malaysia on Knowledge, Attitude, Practice and Stigma Towards Tuberculosis among Adolescents. The Malaysian Journal of Medical Sciences: MJMS, 27(6), 102.

[21] Ilyasu, G., Ogoina, D., Otu, A. A., Dayyab, F., Ebenso, B., & Otokpa, D. (2015). A multi-site knowledge attitude and practice survey of Ebola virus disease (EVD) in Nigeria. PLoS One, 2, 1-13.

[22] Jalloh, M. F., Bunnell, R., Robinson, S., Jalloh, M. B., Barry, A. M., Corker, J., ... & Redd, J. T. (2017). Assessments of Ebola knowledge, attitudes and practices in forécariah, Guinea and Kambia, Sierra Leone, july–august 2015. Philosophical Transactions of the Royal Society B: Biological Sciences, 372(1721), 20160304.

[23] Jalloh, M. F., Robinson, S. J., Corker, J., Li, W., Irwin, K., Barry, A. M., ... & Bunnell, R. (2017). Knowledge, attitudes, and practices related to Ebola virus disease at the end of a National Epidemic—Guinea, august 2015. MMWR. Morbidity and mortality weekly report, 66(41), 1109.

[24] Jalloh, M. F., Sengeh, P., Monasch, R., Jalloh, M. B., DeLuca, N., Dyson, M., ... & Bunnell, R. (2017). National survey of Ebola-related knowledge, attitudes and practices before the outbreak peak in Sierra Leone: August 2014. BMJ global health, 2(4).

[25] Jayalath, T., Ralapanawa, U., Karunaratne, S., Dassanayake, U. K. A., Pathirage, M., Singheprathapa, R., ... & Thilaksha, K. D. (2018). Knowledge and attitude regarding dengue fever among the outdoor patients of the teaching hospital Peradeniya, Sri Lanka. International Journal of Medical Research & Health Sciences, 7(1), 77-84.

[26] Jiang, H., Shi, G. Q., Tu, W. X., Zheng, C. J., Lai, X. H., Li, X. X., ... & Liang, X. F. (2016). Rapid assessment of knowledge, attitudes, practices, and risk perception related to the prevention and control of Ebola virus disease in three communities of Sierra Leone. Infectious diseases of poverty, 5(1), 1-6.

[27] Kigozi, N. G., Heunis, J. C., Engelbrecht, M. C., van Rensburg, A. P. J., & van Rensburg, H. D. (2017). Tuberculosis knowledge, attitudes and practices of patients at primary health care facilities in a South African metropolitan: research towards improved health education. BMC public health, 17(1), 1-8.

[28] Kumar, G. B., Kumar, J. C., Kapil, G., Mahesh, C., Nitin, K., & Rekha, B. (2015). Assessment of knowledge and attitude among school teachers regarding HIV/AIDS education in field practice area of a medical college in southern Rajasthan. Journal of Research in Medical and Dental Science, 3(2), 114.

[29] Lakhiar, J. A., Sajid, H. M. U., & Khan, M. A. (2016). knowledge, attitude and practices relating to dengue fever among teachers of Peshawar Garrison. Pakistan Journal of Physiology, 12(2), 40-42.

[30] Lozano, E. B., Isok, B. T., & Greif, M. M. (2018). People's knowledge, attitude and practices on dengue in two barangays with high dengue incidences in Cebu city, Philippines. J. Entomol, 6, 218-223.

[31] Manzoor, F., Farooq, H., Kanwal, Z., & Bibi, F. (2015). A Study on Dengue Knowledge, Attitude, Practices and their Impact on Aedes aegypti Population in Lahore, Pakistan. Pak J life soc. Sci, 13(3), 145-152.

[32] Morishita, F., Viney, K., Lowbridge, C., Elsayed, H., Oh, K. H., Rahevar, K., ... & Islam, T. (2020). Epidemiology of tuberculosis in the Western Pacific Region: Progress toward the 2020 milestones of the End TB Strategy. Western Pacific Surveillance and Response, 11(4), 14-14.

[33] Neha, S., & Xiao, Z. (2017). Knowledge, Attitude and Practice Regarding HIV/AIDS among Students in China. World Journal of AIDS, 7(04), 247.

[34] Nettey, O. E. A., Enuameh, Y. A., Zandoh, C., Anane, E. A., Abukari, M., Agbokey, F., ... & Owusu-Agyei, S. (2016). Knowledge, Attitudes and Preventive Practices on Ebola Virus Disease in the Kintampo Districts of Ghana. Health, 8(14), 1465-1484.

[35] Nubed, C. K., & Akoachere, J. F. T. K. (2016). Knowledge, attitudes and practices regarding HIV/AIDS among senior secondary school students in Fako Division, South West Region, Cameroon. BMC public health, 16(1), 1-10.

[36] Nubed, C. K., & Akoachere, J. F. T. K. (2016). Knowledge, attitudes and practices regarding HIV/AIDS among senior secondary school students in Fako Division, South West Region, Cameroon. BMC public health, 16(1), 1-10.

[37] Nyakarahuka, L., Skjerve, E., Nabadda, D., Sitali, D. C., Mumba, C., Mwiine, F. N., ... & Kankya, C. (2017). Knowledge and attitude towards Ebola and Marburg virus diseases in Uganda using quantitative and participatory epidemiology techniques. PLoS neglected tropical diseases, 11(9), e0005907.

[38] Olum, R., Chekwech, G., Wekha, G., Nassozi, D. R., & Bongomin, F. (2020). Coronavirus disease-2019: knowledge, attitude, and practices of health care workers at Makerere University Teaching Hospitals, Uganda. Frontiers in public health, 8, 181.

[39] Oni, B. O. (2019). Knowledge, attitude and preventive practice of senior secondary school students on Ebola Virus Disease in Ilaro, Ogun State, Nigeria. Texila International Journal of Public Health, 7(4), 163-172.

[40] Radhika, N. M. L., Gunathilaka, N., Udayanga, L., Kasturiratne, A., & Abeyewickreme, W. (2019). Level of awareness of dengue disease among school children in Gampaha district, Sri Lanka, and effect of school-based health education programs on improving knowledge and practices. BioMed research international, 2019.

[41] Rahman, M. M., Farhana, M. M., Majumder, S., Akter, F., Ariful, M., Rajib, H., ... & Afroz, T. (2020). Knowledge attitude and practice on dengue among households.
[42] Rice, J. K. (2010). The Impact of Teacher Experience: Examining the Evidence and Policy Implications. Brief No. 11. National center for the analysis of longitudinal data in education research.
[43] Sabin, N. S., Calliope, A. S., Simpson, S. V., Arima, H., Ito, H., Nishimura, T., & Yamamoto, T. (2020). Implications of human activities for (re) emerging infectious diseases, including COVID-19. *Journal of physiological anthropology*, *39*(1), 1-12.
[44] Shrikrushna, S. U., Quazi, B. A., Shubham, S., Suraj, T., Shreya, W., Rohit, B., ... & Biyani, K. R. (2020). A review on coronavirus (COVID-19). International Journal of Pharmaceutical and Life Sciences, 6, 109-115.
[45] Solliman, M. A., Hassali, M. A., Al-Haddad, M., Hadida, M. M., Saleem, F., Atif, M., & Aljadhey, H. (2012). Assessment of Knowledge towards Tuberculosis among the general population in North East Libya. Journal of Applied Pharmaceutical Science, 2(4), 24.
[46] Ssebuufu, R., Sikakulya, F. K., Mambo, S. B., Wasingya, L., Nganza, S. K., Ibrahim, B., & Kyamanywa, P. (2020). Knowledge, Attitude, and Self-Reported Practice Toward Measures for Prevention of the Spread of COVID-19 Among Ugandans: A Nationwide Online Cross-Sectional Survey. Frontiers in public health, 8, 890.
[47] Tarkang, E. E., Lutala, P. M., & Dzah, S. M. (2019). Knowledge, attitudes and practices regarding HIV/AIDS among senior high school students in Sekondi-Takoradi metropolis, Ghana. African Journal of Primary Health Care and Family Medicine, 11(1), 1-11.
[48] Tehrani, F. R., & Malek-Afzali, H. (2008). Knowledge, attitudes and practices concerning HIV/AIDS among Iranian at-risk sub-populations. Eastern Mediterranean health journal, 14(1).
[49] Terán Calderón, C., Gorena Urizar, D., González Blázquez, C., Alejos Ferreras, B., Rubio, O. R., Bolumar Montrull, F., ... & del Amo Valero, J. (2015). Knowledge, attitudes and practices on HIV/AIDS and prevalence of HIV in the general population of Sucre, Bolivia. Brazilian Journal of Infectious Diseases, 19(4), 369-375.
[50] Thanavanh, B., Harun-Or-Rashid, M., Kasuya, H., & Sakamoto, J. (2013). Knowledge, attitudes and practices regarding HIV/AIDS among male high school students in Lao People's Democratic Republic. Journal of the International AIDS society, 16(1), 17387.
[51] ul Haq, N., Hassali, M. A., Shafie, A. A., Saleem, F., Farooqui, M., & Aljadhey, H. (2012). A cross-sectional assessment of knowledge, attitude and practice towards Hepatitis B among healthy population of Quetta, Pakistan. *BMC Public Health*, *12*(1), 1-8.
[52] Yboa, B. C., & Labrague, L. J. (2013). Dengue knowledge and preventive practices among rural residents in Samar province, Philippines. American Journal of Public Health Research, 1(2), 47-52.

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Dr. John Peter V. Dacanay is a highly skilled professional. He is a Medical Technologist in Profession, a dependable and incredibly hardworking person. Beyond that, He is an impressive medical technologist who always performs laboratory examinations to have precise reliable results. He is a true team player who can manage difficult situations and knows how to help all his coworkers.

His knowledge and expertise in Clinical Laboratory Medicine are a great contribution in the field of Laboratory, especially in Hematology, Blood Banking, Clinical Chemistry and Histopathology. He has always been an absolute joy to work with.

Dr. Dacanay earned his Doctor of Philosophy Major in Science Education at Nueva Ecija University of Science and Technology, Graduate of Master of Science in Medical Laboratory Science at Our Lady of Fatima University – Valenzuela City Campus, Philippines, Passed the International Medical Technologist Examination given by the American society for Clinical Pathology, He also Passed the Philippine Licensure Examination for Medical Technology given by the Philippine Regulation Commission, (Registered Medical Technologist), Passed the Eligibility Examination given by the Dubai Health Authority, Graduate of Bachelor of Science in Medical Technology at Our Lady of Fatima University – Valenzuela City Campus, Philippines, Earned his Teachers Certificate (18 Units) at Wesleyan University Philippines. He didn't want to stop learning. He is still pursuing his Master of Science in Public Health at the University of La Salette Inc.

With his academic background and qualifications, he never stops inspiring his colleagues in the field of profession. Dr. Dacanay is Assistant Medical Technologist and Blood Bank Section Head of Nueva Ecija Doctors Hospital and at the same time an Assistant Professor 2 at National University-Manila and a Faculty of the Graduate School

of Our Lady of Fatima University, Valenzuela Campus. He is indeed blooded academician that never stop inspiring and encouraging professionals to strive harder to attain the best that they can.

He engaged in various researches and among his research conducted were the following Knowledge, Attitude, and Practices of Colleges and Universities towards the Prevention of Emerging Infectious Diseases: Basis for Development of School Based Health and Welfare Manual; "Post Analysis Identification of Transfusion Transmissible Infection (TTI's) among Screened Blood Donor Sample from 2011 – 2015 in Selected Tertiary Hospital in Nueva Ecija" and "In Vitro Analysis of Citrus (Citrus limonum) Aqueous Fruit Extract against multi-drug resistant Staphylococcus *aureus* (MRSA) and *Acinetobacter baumanii* from isolated human samples". His research inspires others to engage with more research outputs that soon will help in the innovation and advancement in the field of medicine. His paper won in the Research Institute for Tropical Medicine LabCon 2018 and presented to various research conferences not only in the Philippines but also international conferences.

With a wealth of experience, expertise, and enthusiasm not only in the medical technology field but also in education, Dr. Dacanay continues to make significant changes and contributions to the field. His commitment to the development of scientific learning will surely help young and future medical professionals in promoting highly competent, skilled, and innovative ones.

JO NEIL T. PERIA, PhD LPT RMicro FSCO

Dr. Jo Neil T. Peria is a highly accomplished professional with a diverse educational background and extensive experience in the field of biology, microbiology, and science education. With a solid foundation in academia and practical expertise in medical microbiology, he has made significant contributions to both the academic and healthcare sectors throughout his two-decade-long career.

Having earned a Bachelor of Science degree in Biology with a major in Microbiology, Dr. Peria continued his educational journey and obtained a Master of Arts degree in Science Education, followed by a Doctorate in Science Education. This impressive academic background reflects his commitment to continuous learning and professional development.

Dr. Peria has excelled in various roles, notably as an Associate Professor 5 at Nueva Ecija University of Science and Technology where he has contributed to the growth and development of future educators. Prior to his academic endeavors, he served as a Clinical Microbiologist at Nueva Ecija Doctors Hospital, where his expertise in medical microbiology was invaluable helping physicians in diagnosing and treating infectious diseases.

With a strong dedication to his profession, Dr. Peria holds several professional licenses, including being a Licensed Professional Teacher, a Registered Microbiologist, and a Food Safety Compliance Officer certified by the Food Safety Health Academy of the Philippines. These licenses demonstrate his commitment to upholding professional standards and ensuring the safety and well-being of individuals through his expertise in microbiology and education.

Dr. Peria is not only accomplished within his home country but has also engaged in international collaborations. He has international engagements in countries such as Saudi Arabia, Singapore, South Korea, Indonesia, and Malaysia, where he has shared his knowledge and expertise, fostered global partnerships and contributed to the advancement of scientific and educational initiatives.

Throughout his career, Dr Peria has held various leadership positions, showcasing his ability to effectively manage and lead teams. He has served as the chairperson of the Elementary Education and Secondary Education Departments, where he played a pivotal role in shaping the curriculum and ensuring quality education for aspiring educators. Currently, he holds the position of training director at the university, overseeing the professional development of faculty and staff and providing training in its clientele.

With a wealth of experience, expertise in microbiology, and a passion for education, Dr. Peria continues to make significant contributions to the field. His dedication to nurturing future educators and promoting scientific knowledge underscores his commitment to creating a better future through education and research.